Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. JUL 27 1927 Published Weekly. Price 1s.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—14TH YEAR. SYDNEY: SATURDAY, JUNE 25, 1927. No. 26.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. I.—14TH YEAR. SYDNEY: SATURDAY, JUNE 25, 1927. No. 26.

Authors of articles submitted for publication are requested to read the following instructions and to comply with them.

All articles must be typed with double or treble spacing. Carbon copies should not be sent. Abbreviations should be avoided, especially those of a technical character at times employed in ward notes. Words and sentences should not be underlined or typed in capitals. The selection of the correct type is undertaken by the Editors. When illustrations are required, good photographic prints on glossy gaslight papers should be submitted. Each print should be enclosed in a sheet of paper. On this sheet of paper the number of the figure and the legend to appear below the print should be typed or legibly written. On no account should any mark be made on the back of the photographic print. If no good print is available, negatives may be submitted. Line drawings, graphs, charts and the like should be drawn on thick, white paper in India ink by a person accustomed to draw for reproduction. The drawings should be large and boldly executed and all figures, lettering and symbols should be of sufficient strength and size to remain clear after reduction. Skiagrams can be reproduced satisfactorily only if good prints or negatives are available. The reproduction of all illustrations but especially of skiagrams entails the sacrifice of time and energy and is expensive. Authors are expected to take a corresponding amount of trouble on the preparation of their illustrations, whether skiagrams, photographs, wash drawings or line drawings. The references to articles and books quoted must be accurate and should be compiled according to the following scheme. The order should correspond to the order of appearance in the article. The initials and surnames of the authors, the full title of the article or book, the full (unabbreviated) title of the journal in which the article appears, the date of the issue (day, month and year) and the number of the first page should be given in this sequence.

Table of Contents

Listerian Oration.[1]

THE FUTURE OF OBSTETRICS.

By R. MARSHALL ALLAN, M.C., M.D., F.R.C.S.E.,
Director of Obstetrical Research,
University of Melbourne.

BEFORE commencing my address I desire to express my warmest thanks to the Council of the South Australian Branch for the honour conferred on me, especially as this is the centenary of the birth of that great master whom we are assembled to honour tonight. I appreciate the compliment all the more since, as a representative of the younger generation, it was impossible to have had personal knowledge of those times nor to realize fully what such a change meant.

There is a peculiar propriety, particularly in this country, in celebrating the greatness of departed leaders since time soon dims the lustre of their achievements. Lethe, the river of oblivion, flows swiftly and rapidly obliterates what one generation regards as permanent landmarks. Today what does the name of Lister recall? Possibly the hazy recollection that he was a great surgeon or else memories of carbolic acid and the spray or dressings or some detail of surgical technique. But his reputation rests not on a new dressing, a lotion or on new methods of operating. He was the great pioneer who introduced new principles revolutionizing the pathology of inflammation and converting surgery from a name of terror to a bright ray of hope. As we read of the long years of struggle spent in the development and perfection of his system two things are noteworthy. In the first place, admiration must be given to the skill and ingenuity with which he applied the knowledge of his time to wound treatment. His experiments were never unscientific nor unreasonable and the steps taken were followed in proper sequence to a logical conclusion. Secondly, it surprises us that there could have been such bitter opposition from surgeons who did not even trouble to investigate the work personally. It is to the credit of the Scottish school that he had more supporters there than in the London stronghold which he was finally to subdue after a long and bitter fight. The renaissance of surgery began with the publication of a paper "On a New Method of Treating Compound Fractures, Abscesses, Etc.," in *The Lancet* in 1867. It was twelve years later before he was acclaimed the leader of the profession in Great Britain. Lamartine defined genius as the discovery or the application of a principle a little in advance of its time. The record of Lister fully bears this out.

The Obstetrical Forerunners of Lister.

Perhaps it is fitting that an obstetrician is addressing you at this time. It is human to imagine that there were no Greeks before Agamemnon, no antisepsis before Lister. Ideas of the transmissability of puerperal infection and the effect of retained lochia in its causation were noted by Charles White, of Manchester, in 1772, and Gordon, of Aberdeen, in 1795. Collins, the first Master of the Rotunda to issue a report of his work (1826-1833), acknowledged the effect of White's teaching of ventilation and the use of chlorine to disinfect the wards. This was followed in 1843 by the famous paper of Oliver Wendel Holmes on "The Contagiousness of Puerperal Fever." Unfortunately Holmes did not persist owing to the violent opposition of the leaders of the profession in America. Four years later Semmelweiss after years of study stated that puerperal fever was caused by the absorption into the blood from the genitals of decomposed animal matter which was usually carried to the patient by the attendant, but might also be due to the patient herself. He further emphasized the similarity between surgical and puerperal fever. If "bacteria" be substituted for "decomposed animal matter" his definition would be quite modern. But these workers were not heeded and though getting near the truth, just failed to reach the goal. When Pasteur in 1857 published his epoch-making researches on fermentation, the significance of this work largely escaped the notice of the medical profession. Much of it was highly technical and apparently more concerned with brewers and wine producers than surgeons. The attention of Lister was not drawn to these papers until 1865. At once his master mind grasped the importance of Pasteur's researches into the problem of decomposition in exposed organic substances. From his previous knowledge of chemistry and histology he applied this new information to the antiseptic treatment of wounds. Thus the antiseptic system was founded on the germ theory of Pasteur. In characteristic fashion Lister acknowledged the source of his inspiration at that dramatic meeting in 1892 at the Sorbonne, when Pasteur rose to embrace the leader of the British scientific world who was conveying the homage of the medical profession to the great French chemist. Since 1867 the history of surgical and puerperal infection has been that of Listerism. Naturally the measures deemed necessary at first by Lister to combat sepsis did not appeal to the obstetricians. The spray was precluded largely from their field of operation. It was replaced by antiseptic douches, while lubricants impregnated with carbolic were employed for hands and instruments. Slowly the idea of asepsis supplanted the older theory and finally the two were combined—antiseptic preparation of the external genitals and of the hands with aseptic management of labour and the puerperium.

Obstetrical Conditions in Australia in the Pre-Listerian and Early Listerian Periods.

To appreciate properly the present status of obstetrics, especially in view of the frequent assertion that no improvement has occurred during the past fifty years, it is essential to have some knowledge of Australian obstetric practice during the 'sixties and 'seventies. News travelled slowly then and the first account of Listerism as applied to obstetrics was published in 1876 by Dr. Jamieson. As in the hos

[1] Delivered before the South Australian Branch of the British Medical Association on May 26, 1927.

pitals of Europe the mortality was very high. After twelve years at the Women's Hospital, Melbourne, Dr. Tracey in 1869 reported 3,421 deliveries with 41 deaths—a mortality of 12‰—and remarked that no better results could be obtained in the best private practice where any practitioner would be fortunate if he had not a larger percentage. In the following years the Women's Hospital had to be closed because of an outbreak of "scarlet fever and a low form of irritative fever." Between 1873-1879 the mortality rose to 13·79‰, whilst in one year (1873) it was actually 34‰ or one death among every 29 patients.

Conditions in private practice were not much better. The most detailed accounts were those of some Newcastle practitioners who had twenty deaths in 2,090 cases, equivalent to nearly 10‰ births. The literature gives vivid descriptions of the conditions of private practice. We must remember that the goldfields had attracted a motley crowd from all over the world. There was no Medical Act, quacks abounded and trained nurses did not exist. Professional ill-feeling was rife and, judging from the frequent suits for malpraxis, the general medical standards must have been low. There were repeated cases of uterine rupture due to the use of ergot in the second stage as well as to the application of high forceps. Traction on the cord was a common practice with some practitioners. At least three men were tried for manslaughter due to uterine perforation following craniotomy performed with a gimlet, auger, chisel and hook of telegraph wire as instruments. That the principles of masterly inactivity were not always followed is well illustrated by a South Australian practitioner:

> Expeditious delivery is unquestionably of advantage to the practitioner. The real objections to the forceps (I avoid such errors as including the cervix in the blades and pulling the uterus and all away as only possible in exceptional cases) are atony of the uterus and laceration of the cervix and perineum. Delivery may be expedited in accord with sound practice by using digital manipulations always, instrumental aid generally and drugs occasionally.

Another practitioner mentioned that in far the greater number of cases the old adage held good, namely "patience and a piece of tape are all that is required." Unfortunately he continued to describe a case of high forceps where after having divested himself of unnecessary clothing he began a long and steady pull. In 1860 there was a curious legal case for alleged unskilful treatment which showed that some laymen at least had glimmerings of the importance of postnatal examinations. Whilst giving a verdict for the defendant, three jurors considered that he should have examined the patient before finally leaving her. The editorial comment entitled "Speculative Law *versus* Practical Medicine" is illuminating:

> Just fancy how indignant and justly so a patient would be if after recovery from her *accouchement* he were to say to her "you must allow me to make an examination to see if you are all right." Why if such a thing were to be spoken about the whole country would ring with the impropriety and indelicacy of this conduct.

The Present Position of Obstetrics.

Compared with the Listerian period we are fortunate in that there are regulations for medical and nursing practice, hospital accommodation has improved out of all recognition and good teaching facilities exist. While the mortality rate has decreased to a great degree in hospitals, the general maternal mortality rate has not dropped in the same ratio. Private practitioners who know from their own results that their records are good, cannot understand this failure of the statistical returns to reflect their own work.

The public are commencing to be alarmed at the unnecessarily high death rate and desire to know why obstetric practice has lagged so far behind surgical. Inquiries have been instigated in various English-speaking countries and the information used in this address has been obtained from a survey of the conditions prevailing in Victoria.

We may consider firstly that the modern returns are much more accurate than those of earlier days. Although the difference in actual figures does not seem great, it represents for Victora a decrease of 28% in the last decennium as compared with the period 1871-1880. In other countries much time has been wasted in futile arguments as to the degree of culpability of doctors and nurses or of the iniquities of the general practitioner as compared with his specialist *confrère*. With us the nurse can be excluded from at least a major share of the blame, as nine-tenths of all confinements are conducted at one stage or other under the guidance of a doctor. Nor are there so many specialists that their influence can have a great effect on the problem.

Tracing the evolution of obstetrics since the Listerian period, two distinct advances have been made. In the first place the greatest advance of all has been the recognition of the value of antenatal supervision with which the name of the late J. W. Ballantyne is so honourably associated. The proper application of these principles should practically abolish eclampsia and very greatly decrease the accidents of pregnancy and labour. As sepsis is mainly due to manipulative procedures consequent on abnormal labours, it too should be largely eliminated. The value of efficient and continuous antenatal and intranatal care is strikingly shown in the latest returns from the Women's Hospital. Among 1,281 patients with antenatal care only two deaths occurred. One of these patients did not attend regularly and in fact was admitted only after being in labour for a considerable time and badly infected. Compare this with 1,399 patients who were admitted as emergency cases in which the majority probably had very little supervision. Twenty-six deaths occurred in this group. On the whole antenatal supervision is improving rapidly and the general public have been educated to expect it. There is great need yet for its more general adoption in the industrial suburbs and in the country in particular. Secondly, there has been the gradual establishment of a more or less standardized technique as well as indications of the limitations of each obstetric procedure. At first obstetri-

cians, following the teaching of Lister, played for safety and interfered as little as possible with Nature. Then various indications for operation were recognized. Slowly but surely obstetrics began to be recognized by many as a surgical procedure. Unfortunately this resulted in a host of fads, each claimed by its sponsor as a great improvement on Nature. Instead of regarding labour as a normal physiological process, writers referred to the "pathogenicity of parturition" and advocated a wide substitution of artificial for natural methods of delivery. Those in the forefront of this reaction did not realize that procedures which might be fairly safe in their hands, were fraught with great danger when performed by those who did not appreciate the risks involved. How frequently is a general surgeon called in to decide the method of surgical treatment to be adopted in a difficult case? As Whitridge Williams truly states, it requires a great deal more intelligence to decide to let a woman have a spontaneous labour through a contracted pelvis than to do any operation. Apart from questions of necessary or unnecessary interference during labour arises that of the aseptic conduct of parturition. The principles of asepsis and antisepsis are not complicated nor difficult to apply, namely the proper preparation of the external genitalia and the hands and the prevention of any non-sterile object coming in contact with puerperal wounds. Therefore, while we are in favour of labour being treated in a surgical fashion, if we are to reap the benefits surgery obtained from Listerism, this does not imply that surgical methods of delivery are to be used in every case. It means that we must prepare the field of operation as the surgeon does, conduct labours under favourable surroundings and have adequate assistance. The usual haphazard methods must be completely abolished before real improvement will be noted. In the Listerian days the main trouble after labour apart from sepsis was vesico-vaginal fistula due to the effect of prolonged labour. We have practically banished this, but the records of any gynæcological hospital plainly show that the incidence of prolapse, displacements and lacerations is no less now than formerly.

Now that surgical methods have almost reached a dead end, there is a growing tendency to invoke laboratory aid in the investigation particularly of the problems of pregnancy. Unfortunately the causation of the toxæmias of pregnancy is still unknown and the results of blood chemistry and allied methods are of little practical value. We must still depend on accurate clinical observation and judgement. The same applies to the effect of pregnancy or the fœtus on the glands of the endocrine system. Much chaff must be winnowed to obtain the few grains of truth in the work published so far.

The Problems and Difficulties of Private Practice.

It has already been noted that while hospital conditions and records have shown definite improvement, the same principles of asepsis and antisepsis seem to have failed partially in private practice. So far in discussing the problem two factors only have been mentioned, namely the patient and the attendant. In private work the environment of the delivery plays an important part. Why does the average woman unhesitatingly enter a properly equipped hospital for any surgical operation even of a minor nature and yet obstinately refuse to leave her home for an act which, though it may be normal, is certainly fraught with graver possibilities than many an abdominal operation? The answer is to be found partly in tradition and the desire to be at home at such a time and partly in a tacit admission by the lay mind that obstetrics has none of the glamour of surgery and the consequent necessity for its performance in impressive and possibly expensive surroundings. As a profession we must make a united and decided stand and replace the majority of nursing homes with efficient hospitals. Then can we insist that all *primiparæ*, all patients requiring antenatal treatment or those needing obstetric operations as well as those with infection shall be treated under proper conditions. Surely what is considered essential for even minor surgery, is not beyond our obstetric ambitions. Once we can show what is to be gained by adequate treatment in proper surroundings, then it will not be so hard to convince those who have heard of the tragic occurrences in some of our smaller nursing homes. Meanwhile are we satisfied with the ordinary methods of preparing a patient for labour in a private house, particularly when no trained help is available? How often do we omit those precautions during labour without which no man would ever perform the simplest surgical operation? New Zealand can show us one way towards improvement by the provision of facilities for obtaining sterile obstetric outfits. Nor is the antiseptic preparation of the field of operation as perfect as it might be. Shaving or close clipping and the application of iodine or biniodide solution are not beyond even an untrained nurse. By attention to these small details the Women's Hospital was recently able to report a definite decrease in morbidity. Those who never wear gloves, but rely on antiseptics, may not get a roughened and cracked skin. But it would be better to prepare the hands just as carefully and then wear gloves which can be dipped in stronger solutions than any bare hand could stand. If coupled with these precautions which after all are the ordinary ones accepted for surgery, there is developed a disinclination to interfere except for real obstetric indications, a great advance will be made, thereby bringing domestic practice more into line with hospital methods. While the furore for operating has not reached the same height as in the United States, too many Cæsarean sections have been performed for various indications. The mortality associated with this procedure for *placenta prævia* and eclampsia in particular is greater than that following more conservative lines of treatment. Many operations, especially for contracted pelvis, appear to have been done because it was easier to say that the child could not be born any other way than to wait and see what Nature might be able to do. If further comment be necessary, let it be in the words of a Victorian country practitioner who wrote:

Except for well defined indications the man who performs Cæsarean section without a trial of labour is either deficient in experience or honesty.

The use and abuse of forceps is a perennial topic especially in busy industrial practices. I commend the views of the Obstetric Staff of the Women's Hospital—that the commonest type of forceps application should be the "head on perineum" operation. In this the risk to mother and child is lowest, while any other type is associated with real risks. This attitude has been strongly confirmed by the recent investigations of Holland and Claypon concerning dead births and neonatal deaths. The frequency of intracranial lesions was high. Some were due to spontaneous breech labour, but the majority were associated with the use of forceps or the practice of podalic version. While such manipulations are often necessary, the high mortality suggests that our efforts should be directed towards a reduction of the need for obstetric interference.

The advocates of forceps maintain that more perineums are saved by their timely use and no morbidity follows their application. This is absolutely disproved by the records of both metropolitan and country hospitals. A request for more patience in the second stage does not mean advocating undue delay, but an intelligent prevention of pressure on both maternal and fœtal soft parts by careful observation of the patient. A fair index of the value of the obstetric work of a hospital or an individual is the conduct of the third stage. Hurried tactics during labour are apt to be associated with similar methods later. The importance of a completely empty and well retracted uterus in the prophylaxis of sepsis still requires much emphasis.

Puerperal sepsis remains a vexed problem. It is directly responsible for at least one-third of the total mortality. Autoinfection undoubtedly plays a part, but my investigations in Victoria bear out the fact noted by British authorities that the majority of cases are associated with repeated examinations or injuries resulting from various obstetric operations. Closely allied with this topic is that of notification. It is not necessary to add anything to Dr. Hone's admirable paper in THE MEDICAL JOURNAL OF AUSTRALIA on the absolute failure of notification either as an estimate of the prevalence of infection or as a means of preventing its spread. Notification will never be of any use until it is backed up by practical help for the practitioner. This has already been done in England, notably at Hampstead and Bethnal Green. There are many factors in puerperal sepsis which have eluded research so far. We know little of the immunity of the normal pregnant woman, neither how to increase it nor how to recognize any diminution. At present puerperal sepsis can best be treated prophylactically by careful antenatal supervision, eliminating foci of infection and thus raising the general standard of health; by rigid asepsis during labour and the third stage and a minimum of operative interference and trauma to the tissues as well as by the avoidance of shock.

So far the mortality of childbirth has been discussed, but little has been said of morbidity. At least 50% of women bear some sign of weakened function after labour. The importance of a thorough overhaul six or eight weeks *post partum* has not been sufficiently appreciated by many men, nor has its value been impressed on the patients. The records of the Women's Hospital point out the need of such care, especially with nephritic patients and possible future pregnancies. Last year eleven out of twenty-eight deaths were definitely associated with nephritis.

The Influence of the General Public on the Problem.

So far those matters which directly concern the profession, have been discussed. Our own house needs putting in order, but the general public play an important part in the problem. One of the greatest obstacles to improvement is the attitude of the patient and her relatives. The modern city woman in particular desires to be delivered as speedily as possible without any heed to the cost to her future health. Unfortunately some men are only too ready to accede to this. It places too great a strain on those trying to do good work to see their patients flocking to one who "does not let them suffer." This desire to get it over quickly is not confined to the patient alone, but many a busy man admits that otherwise he would not get through with his day's work. This brings up the question of how many patients in confinement a doctor can honestly attend in conjunction with a general practice. The point does not arise in the country, but mainly in lodge practices in industrial areas. From my observations the best results have been shown by those who do not average more than one hundred to one hundred and fifty cases annually.

The "Gamp" and the handy woman seem to exercise a spell over many women to the detriment of the trained nurse. Too many men work with "Gamps" when skilled help is available. In this respect we cannot altogether blame the public, if they set a low valuation on obstetrics, seeing that their doctor does not demand skilled attention wherever possible and in suitable surroundings. That there is much inertia, indifference and even strong opposition to overcome is evidenced by the political reception of that recommendation of the Royal Commission on health that the maternity allowance be paid only to those applicants producing evidence of antenatal supervision. The reasonableness of this request is self-evident, but it will mean much spade work before it is put into effect.

The Relationship of Maternal and Infant Mortality.

It is well known that the efforts of those responsible for the reduction of the infantile death rate have been frustrated by the persistently high mortality for all ages under one month. This is almost entirely due to causes associated with pregnancy and labour. At least half the still-births and neonatal deaths are due to complications of labour and the toxæmias of pregnancy. Those lost owing to labour difficulties are usually the healthiest and best developed and the very ones the State can least afford to lose. Therefore those measures already

stressed under antenatal supervision will have a definite effect on the infantile mortality under one month. There is need for efficient pathological laboratories with a trained staff at all large maternity hospitals to investigate fully still-births and neonatal deaths.

The Future.

I have endeavoured to show that in obstetrics we have failed to maintain and amplify the high standards set by Lister. Those standards are not impossible of achievement, even in an industrial suburb. But disunion and the apparent satisfaction of some men to be content with low standards must first be overcome. There are many signs in current literature that we as a profession are standing at the crossroads and soon must come to a decision. One road points to Government control with a full-time service of obstetrical specialists, excluding the general practitioner from this branch of his work. Even if it be not completely taken from him, antenatal supervision will assuredly be assumed by State clinics and the first point of contact with the patient lost. Closely allied with such control will be compulsory interference with the choice of doctor, the rendering of official reports and returns and the supervision of actual medical attendance. The other path leads the way most of us would prefer to travel. But it means a complete change of attitude to that frequently seen at present. It implies wholehearted cooperation between general practitioner and specialist and a demand for and use of better hospital facilities. Expert obstetric care is required just as urgently as better hospital facilities. Frequently patients are not sent to hospital until it is too late to save the child and sometimes too late to save the mother also.

Many men when in difficulty do not call in those with special training but some friend, often a surgeon, with no special knowledge of obstetrics. Is it to be wondered at that under these circumstances the public are slow to realize that special skill is often necessary to insure the best results. Provided that the practitioner insists on thorough antenatal supervision, the conduct of labour under suitable conditions, the prompt attention to febrile patients backed up with specialist help if necessary, then to him will belong the main credit of improving the status of obstetrics and lowering the mortality rate. The nurse must work in cooperation and not as a competitor as is frequently seen in many suburbs. The time is hardly ripe yet for the division of work advocated by some British authorities, namely supervision during pregnancy by the doctor and delivery by the nurse alone except in abnormal cases.

There are signs of the dawn of a new era which perhaps I can see more clearly than those engrossed in their more circumscribed sphere of work. The interest created and the very earnest assistance which I have received from men throughout Victoria, have been most encouraging. The younger graduates on the whole are endeavouring to carry out the ideals taught to them during student days. When Lister seemed to be surrounded by hostile critics and detractors his most enthusiastic supporters were the younger generation. Similarly it is on them we pin our hopes for an obstetric revival. Lister was noted for his generosity in recognizing the work of his colleagues. We need more of that spirit today. When it becomes the rule that in cases of difficulty those with special knowledge will be consulted, then will more senior men continue to practise obstetrics and more younger men will be encouraged to qualify for positions requiring such skill.

Two of Lister's phrases are well worth remembering by all practitioners:

> If a death should result from our carelessness or want of thought it is not far removed from manslaughter.
>
> To intrude an unskilled hand to such a piece of divine mechanism as the human body is indeed a fearful responsibility.

The great need at present is the arousing of an aseptic conscience in many who are dulled by the routine of practice and possibly affected by that fatalistic attitude characteristic of the Middle Ages when men felt overcome by circumstances and impotent to effect changes. We are still masters of our destiny and should be able to control external circumstances and not let them rule our fates.

Lister was a great and inspiring teacher. He laid most emphasis on our personal responsibility and duty to our patients, the need to observe keenly and having once formed our own conclusions to act on them. We cannot stand still and simply enjoy the glorious tradition handed down to us. Rather must we become imbued with an active faith which will insist on overcoming the present obstacles while ever seeking new paths of advancement. Individually both in our own spheres of work and also in the circles which we can influence there is a call for the advancement of knowledge regarding the varied factors of the problem. Effective prophylaxis and treatment can be established only after further information obtained not only from laboratory and hospital observations, but in a great measure from the records of private practice. If this be done in a spirit of devotion to the great ideals of him whom we commemorate tonight, then surely will obstetrics take its vacant seat alongside surgery and medicine. Fortunate indeed is the country that can produce such men as Lister. When their race is run and the torch is handed on to us, what will its fate be in our care?

> Let no man think that sudden in a minute
> All is accomplished and the work is done;
> Though with thine earliest dawn thou shouldst begin it,
> Scarce were it ended in thy setting sun.

RADIOLOGICAL ASPECT OF DISEASES OF THE COLON.[1]

By J. G. EDWARDS, M.B., Ch.M. (Sydney),
Honorary Radiologist, The Sydney Hospital, Sydney.

THE radiographic diagnosis of lesions of the colon is by no means easy and it should be attempted

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on May 26, 1927.

only by the expert with a completely equipped laboratory at his disposal.

Fluoroscopy is probably more important than radiography, but the two methods should be combined if the best results are to be obtained. Enema examination is of greater value than the opaque meal in the diagnosis of pathological changes in the colon, but in most cases a combination of both methods is of value. The opaque meal will give information as to colonic mobility and as to abnormal positions of the proximal part of the colon. For lesions beyond the splenic flexure enema examination is necessary. The head of the opaque meal should reach the hepatic flexure in from six to eight hours and the splenic flexure in from twelve to sixteen hours. If these times are doubled, it means that a considerable degree of intestinal stasis is present.

Before an enema is given, the patient must be carefully prepared. A dose of castor oil should be given twenty-four hours before examination and an ordinary warm water enema about four hours before it. Morphine need not be given, as there is little risk of the patient failing to retain an enema if it is given slowly and if the patient is instructed to breathe freely through the mouth during its administration. Elaborate enema formulæ are unnecessary; one hundred and eighty grammes (six ounces) of barium sulphate and sixty grammes (two ounces) of powdered gum acacia are mixed to a paste with cold water and warm water is added to make 1·7 litres (three pints).

An ordinary douche can, fitted with a rubber or metal rectal tube, is used and the patient is allowed to insert this tube himself (this point is especially important if the patient suffers from hæmorrhoids or if he is of nervous temperament). The injection is made with the douche can elevated about sixty centimetres (two feet) above the patient's body. The rectum fills rapidly and is soon outlined with its valves of Houston, two on the left and one on the right.

It is only rarely that a rectal lesion can be demonstrated and when demonstrated, it is generally a well-advanced one. Proctoscopic examinations are of more value than X ray examinations in diseases of the rectum.

When the rectum is full there is a slight hesitation at the pelvi-rectal junction, but a little gentle palpation is followed by a rapid filling of the sigmoid and descending colons; the table may be tilted with the head low and this position helps in filling the sigmoid and descending colons.

There is some delay at the flexures, but gentle palpation is of value in helping the opaque enema onwards. Occasionally a spasm of about seven and a half or ten centimetres (three or four inches) of the middle of the transverse colon is met with, but this passes off in a few minutes, if the patient breathes deeply. When the enema fills the ascending colon, caecum and part of the ileum the flow is discontinued.

The colon is carefully examined for narrowing or obstruction, for filling defects which persist after palpation, for fixation by adhesions and for irregularities in position.

Tuberculous disease of the caecum is accompanied by colonic hypermotility and caecal irritability and it is found that the caecum is unable to tolerate the presence of foreign material and at no point of examination can much of the opaque material be seen in the caecum.

Constant filling defects point to the presence of malignant disease and frequently a tumour can be palpated at the site of the defect. Several skiagrams should be taken and the constancy of the defect demonstrated.

Chronic colitis gives a peculiar smooth outline to the colonic shadow, due probably to loss of muscle tone from the chronic inflammatory changes.

Diverticulosis of the sigmoid is a common finding. In this condition the sigmoid colon is narrowed for several centimetres, it has a ragged outline and numerous small diverticula showing as dark areas outside the bowel lumen.

Hirschsprung's disease is demonstrable by enema and the lower part of the colon is shown in skiagrams as a huge broad shadow; even if two litres of solution are used, it is often impossible completely to fill the greatly distended gut.

In making bowel examinations, it is always necessary to be on the lookout for other lesions

The slides which I show tonight demonstrate several lesions accidentally discovered during bowel examinations, namely gall stones, renal calculus and a round worm in the ascending colon.

DISEASES OF THE COLON: THE SURGICAL ASPECT.[1]

By JOHN COLVIN STOREY, O.B.E., V.D., M.B., Ch.M. (Sydney), F.R.C.S. (England),
Honorary Surgeon, Royal Prince Alfred Hospital, Camperdown, Sydney; Honorary Surgeon, The Coast Hospital, Little Bay, New South Wales.

THE subject which I have the honour to introduce for your consideration tonight is the surgical aspect of diseases of the colon. It was intended, I believe, that the rectum should be excluded from the discussion, but I have found it scarcely possible to adhere to this desire, for diseases do not stop short at the anatomical junction of rectum and colon and as a matter of fact this very site is perhaps the most difficult of all for the surgeon from the point of view of treatment. However with your permission I shall arrive at a compromise and will endeavour to avoid too much detail as far as the rectum is concerned. It will be my aim as far as possible to give you impressions gained from experience and some of my opinions may not perhaps meet with undoubted approval of colleagues, but they will at least have the solid foundation of conviction born of practice. In addition, I propose to submit for your

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on May 26, 1927.

perusal an analysis of two series of cases occurring in patients under the care of various surgeons at the Royal Prince Alfred and the Coast Hospitals during a number of years. For the help of these two series, I am indebted to Dr. Millard, Superintendent of the Coast Hospital, and to Dr. Burton, my house surgeon at the Royal Prince Alfred Hospital and, of course, to all the gentlemen who cared for the patients.

Colonic diseases may be divided into congenital, inflammatory and neoplastic. Naturally, my own experience has mostly been of the last named.

CONGENITAL ABNORMALITIES.

Fortunately, it has not been my lot to encounter many congenital abnormalities, beyond having seen a caecum and appendix in a left inguinal hernia sac (in a case of complete transposition of viscera) and an acutely inflamed appendix in a man's right femoral sac, which I mistook for a strangulated femoral hernia.

The colon may be atresed or absent in any part of its course, but nearly all these patients die. May I remind you of Dr. Alan Walker's remarkable series of three successive children of the same family, who had complete absence of the lower sigmoid and rectum.

I have not encountered any of the embryologically interesting cases in which the rectum and anal canal fail to meet, nor have I met a single case of malrotation of the gut leaving the caecum on the left. A few cases of failure of the caecum to descend have been seen and I have noticed, as most of you no doubt have also, that the degree of attachment of the colon throughout its whole length is variable. I feel that this does not matter except in the case of twisting on the mesentery, that is the formation of a volvulus and I have, so far as I know, seen only one such and that in the commonest site, namely the sigmoid. This patient came to hospital with acute large bowel obstruction and I performed a right lumbar colostomy. A fortnight later I opened the abdomen, expecting to find a growth of the sigmoid, but to my surprise found a sigmoid with a very long mesentery and an exceedingly short attached end. Evidently the relief of tension by colostomy had allowed the gut to become undone. I am convinced that, had the abdomen of this patient been opened, he would have died. The sigmoid loop was excised at the second operation.

The various veils and kinks of the caecum that have been described are, I fancy, somewhat mythical.

I have not seen a case of congenital dilatation or Hirschsprung's disease.

INFLAMMATORY AFFECTIONS.

Inflammatory affections may be divided into acute and chronic.

Acute Inflammation.

During four years' service in the East I saw quite a number of patients with dysentery both amœbic and bacillary. We used to notice that the stools contained as a rule more mucus streaked with blood in the former type and that tenesmus was very severe. In the bacillary type the general reaction was greater, temperature higher and the stools more inclined to be of the pea soup type. If in doubt of the cause and in the absence of an immediate examination of the stool by a skilled pathologist, we never hesitated to exhibit both emetine and antidysenteric serum.

Ulcerative Colitis.—By ulcerative colitis is meant ulceration of the colon not due to new growth nor specific infection. This has not come into my practice. Rare cases do occur, I believe, in which colonic inflammation is so intense that death of the whole thickness of the gut wall may occur.

Chronic Inflammation.

A few cases of chronic mucous colitis have been seen and these occur almost always in nervous individuals. I have had no experience of appendicostomy for these patients and the performance of this operation would require a lot of persuasion. A temporary colostomy on the right side would, I think, be more effective in resting the bowel; but probably the best thing is to treat the patient on general health lines, advising a change of climate and surroundings. Of course it is advisable in all these cases to exclude a specific infection and a neoplasm.

Woody Phlegmon of the Caecum.

I would like to draw your attention to a curious somewhat chronic form of inflammation seen in the caecum and sometimes called a hard, woody phlegmon. I remember meeting a case in which the end of the ileum and part of the caecum were so indurated that it was quite impossible to determine whether I was dealing with inflammation or new growth; but as the part was movable, I excised the affected portion of intestine and the pathologist reported "simple inflammation." Woody phlegmon is usually due to trouble in the appendix and when a caecum so affected is seen, the best thing is to close the abdomen at once as the inflammation will subside.

Tuberculous Ulceration.

In this country tuberculous ulceration is rare as regards the colon. I cannot recall a case, although I have seen some in the small intestine.

Syphilitic Ulceration.

Syphilitic ulceration occurs, but I have seen few instances. In all doubtful cases the Wassermann test should be done and the effect of antisyphilitic treatment tried. Syphilis seems to occur mostly at the lower end of the bowel. I have one patient just now who has existed for some years with a colostomy performed for chronic inflammation of the bowel from sigmoid to anus in which the lumen is almost obliterated and the gut wall very hard, and I am at a loss to know whether the condition is syphilitic, tuberculous or simple chronic inflammation.

Diverticulitis.

My own experience of diverticulitis is limited to two cases.

One patient had an abscess which burst all over the peritoneal cavity, and I drained the pouch of Douglas and opened the abscess externally and *mirabile dictu* the patient recovered only to die of a somewhat over-zealous operation on my part when I excised the offending bowel a few months later.

The second is still in hospital and was recorded as a result of X ray examination as suffering from "marked diverticulitis." On opening the abdomen, I found what was apparently a perfectly normal colon and of course did not interfere with it. He is recovering quite well. Of course, I admit freely that there may be diverticula in his very **fat** *appendices epiploicæ*.

These two cases will no doubt make your humble servant a little shy of operations for diverticulitis.

Dilatation of the Colon.

I have not met with a fatal case of dilatation of the colon *per se*. Frequently in cases of small bowel distension I cast a purse string of fine silk in the bowel wall and plunge a trocar and cannula attached to the suction apparatus in the centre and when the bowel collapses, I withdraw the cannula and tie the purse string. I find that this procedure is very useful indeed. The other day in operating for a gastric ulcer, I was bothered by great distension with gas only of the colon whose wall was healthy, and the same method was used with happy results.

Cancer of the Colon.

Especially in hospital practice cancer of the colon is fairly common and if only we could get the patients earlier, the results would no doubt be better than they are at present. I confess at once that, although treatment in some cases is wonderfully encouraging, the path of the surgeon dealing with these patients is beset with pitfalls and disappointments. The great difficulty is that an early diagnosis has been hitherto wellnigh impossible and yet if the patients were to come under the care of a competent surgeon relatively early, they would lend themselves to brilliant results.

Types.

It is customary in some textbooks to divide the growth into proliferating, scirrhous, infiltrating and colloid with increasing degrees of malignancy in that order. So far as my own experience goes, the division is purely arbitrary; they all start in the mucous membrane and the pathologists tell us they are adenocarcinomata. The degree of virulence varies as in cancer elsewhere in the body. An increase in proportion of cellular content signifies an increase in the degree of malignancy and yet I do not think that the operative appearance nor the opinion of the pathologist can forecast with any accuracy the probability of glandular or metastatic infection.

As a general rule it may be stated that glandular infection is late and that wide local dissemination except in the case of the colloid variety which rapidly spreads through the peritoneum, is unusual. Even when the peritoneal coat of the bowel is invaded, the outlook is not necessarily grave and sometimes when the growth is fixed to the parietes, that fixation is inflammatory and does not render the condition inoperable. From the patient's point of view the scirrhous type is the best, for it forms a ring stricture often almost as though a piece of string had been tied round the bowel and so causes obstruction and makes the patient seek advice.

Signs and Symptoms.

Signs and symptoms have been most variable and vague. Pain of varying character, accompanied by some change in the bowel habit, mostly an increasing difficulty of keeping the bowels open, seems to be the most constant. If there be no obstruction, then the growth may be absolutely symptomless.

My own experience has been and this is borne out by the series, that the frequency in situation increases from the caecum to the rectum and the nearer the rectum, the more likely there is to be some alteration in the function of defæcation, in particular a call to stool with an inability to complete the act.

The presence of blood is not very common in colonic growths, but fairly frequent in rectal growths. At present many patients come to hospital with either chronic or acute obstruction. Some of these will complain of recurring attacks of spasmodic pain and will even trace out the wave of pain as it passes along the bowel and will describe a weird noise heard as the gas goes through the narrowed lumen. The situation of the pain is sometimes misleading; for example a growth of the sigmoid will cause distension of the caecum. I have actually seen the caecum burst from back pressure in such a case. Such pain will be accompanied by tenderness in the right iliac fossa and lead to the old favourite, appendicitis, being diagnosed. I remember being led into this trap with the aid of a senior colleague.

I was rung up by the house surgeon and told that Dr. So-and-so had seen a patient with acute appendicitis and thought he should be operated upon. On arrival at the hospital, I found a man with a history of abdominal pain and tenderness in the right iliac fossa and promptly robbed him of his appendix. He did quite well, but returned a few weeks later with acute obstruction from a sigmoid growth.

X ray examination after a barium enema seems to hold out the best hope of an early diagnosis and here let me warn you that the shadow is not always the same as the substance. It apparently requires considerable experience on the part of the radiographer to enable him to give a reliable opinion of a barium enema. The mere fact that the barium does not go beyond a certain level is not of much significance, as Dr. Sear has often told me. Moreover, filling defects are sometimes seen by the enthusiastic, when they do not exist.

The sigmoidoscope for the lower part of the bowel, when carefully used, should be a help. Personally, I have not much experience with the instrument. A well-known physician once asked me to examine a patient's splenic flexure with a sigmoidoscope. This, of course, is quite impossible. Any rigid instrument must be passed carefully under the protection of actual vision of its progress in the bowel and moreover a soft rectal tube should never

be inserted more than seven and a half centimetres (three inches). It will always curl up. This has been clearly proved by more than one X ray expert.

The lesson that seems to be learned is that any patient, particularly if of middle age, who complains of an alteration of bowel habit or vague pains in the abdomen, should be examined in the most thorough manner by palpation, combined palpation and auscultation, rectal examination, sigmoidoscopic examination, examination of fæces, barium enemata followed by X ray examination and after careful consideration of the mental attitude of the patient an exploratory laparotomy. Of course, any wave of enthusiastic investigation of this disease is bound to lead to unnecessary operations, but with care these could be reduced to a minimum. The combined auscultation and palpation method is especially useful in cases of obstruction. It is subject to fallacies, but it is often possible to map out distended colon and to hear a peculiar high pitched note as contents rush from distended bowel to narrowed lumen.

As a general rule it may be stated that the presence of visible peristalsis causing a ladder pattern indicates small gut obstruction rather than large. The small bowel occasionally can be seen contracting when the actual cause of the block is lower down in the large bowel.

The Operation.

The actual operation should be considered under two headings: (i) cases with obstruction of any degree and (ii) cases without obstruction.

Operation in the Presence of Obstruction.

In my opinion a blind colostomy is the only operation worth considering in the presence of obstruction. A laparotomy may satisfy the surgeon's curiosity about the site of the growth, but stands a very good chance of killing the patient. Distended large bowel will not stand handling. The value of a right lumbar colostomy was most dramatically impressed upon my mind by Sir Alexander MacCormick in a patient brought to him by a practitioner when I was Sir Alexander's assistant in 1912 and 1913.

This man was as close to death as a patient could be. His limbs were cold and blue, his abdomen was blown up as tight as a kettle-drum and his pulse almost imperceptible. I was the unfortunate deputed to give the anæsthetic and the mere turning on his side almost finished the patient. However, Sir Alexander rapidly opened the ascending colon, the abdomen came down like a pricked balloon and at once the patient improved and recovered to have a colloid cancer successfully removed from the splenic flexure a fortnight later.

It has been my practice lately to use a local anæsthetic when the patients are very ill. This method seems to me to be safer and except in the case of a very fat patient, lumbar colostomy is not a difficult operation. I shall not weary you with the details of the procedure. These may be found in textbooks. It is much nicer to fix a Paul's tube in the gut with a running suture and, provided the tube has a good flange, it will stay in position for several days quite as long as the fæces remain fluid. I generally fix the Paul's tube to the skin with a clove hitch of fishing gut. In passing, I would commend to you Paul's article on intestinal obstruction in Volume II of Binnie's "Treatise on Regional Surgery." May I point out that, given a case of large bowel obstruction, if the surgeon works merely on the law of chance, an opening in the ascending colon will be above the growth in about 96% of cases, according to the site incidence in the Prince Alfred Hospital series over a number of years.

What should be done when the abdomen is opened and greatly distended large bowel encountered? The answer is, recognize your mistake, close the abdomen and perform lumbar colostomy, except in rare cases where the bowel you meet is obviously almost burst. In these circumstances, the safest thing is to wall off with sponges and plunge a fair-sized trocar and cannula attached to a suction apparatus into the bowel and empty it if possible and then stitch a Paul's tube into the opening of the bowel and also fix the bowel to the peritoneum. Anastomoses in the presence of acute obstruction are almost sure to fail.

Operation in the Absence of Obstruction.

Even in the absence of obstruction a preliminary colostomy, especially in cases of rectal cancer that can be removed from below, renders the treatment much safer. In rectal growths, if the colostomy is to be permanent, it is, of course, done in the left inguinal region.

In colonic cancer the ideal seems to be complete and wide excision of the growth and juxtaposed glands with a long side to side anastomosis. However, an end to end junction works quite well, provided it is snugly performed. A large Murphy's button is safe only where the bowel is entirely surrounded by peritoneum.

In removing portion of large intestine, it is essential that the surgeon should be quite satisfied that the remaining bowel has an adequate blood supply.

I remember only too well a few years ago doing an excision of cancer of the large intestine and a side to side anastomosis and feeling a little pleased with my work, till at the very end of the operation I remarked to the house surgeon that I did not like the colour of the bowel—it had seemed a little pale. The patient did very well for four days and then suddenly went to pieces. *Post mortem* the anastomosis had been demonstrated and leaking.

There are rules laid down giving points at which to ligate arteries, but from a practical point of view it is best actually to see the small terminal loops pulsating and the bowel a healthy red colour. The actual anastomosis and distribution of blood supply vary. It is a safe rule, however, that if the middle colic be tied, all the transverse colon must be removed.

In the rectum any growth which can be fully palpated *per rectum* should be removed from below after a preliminary laparotomy in which the liver is palpated for secondary deposit and the pelvic and aortic glands examined. A left inguinal colostomy is then performed, the actual removal of the growth being done a fortnight later. Growths at the top of the rectum and the lower end of the sigmoid are best treated by combined abdomino-perineal method and let me warn you that in a male who is fat and

has a long narrow pelvic basin, the operation is probably the most difficult in surgical practice.

Interesting Cases.

May I recall one or two remarkable cases?

A female, aged fifty years, was first seen six years ago with an urgent abdominal condition at the Royal Prince Alfred Hospital. Laparotomy revealed a cancer of the hepatic flexure. As there was no obstruction, I excised and performed a Murphy button anastomosis. A few days after the operation I discovered that the patient had sixteen years previously been operated upon by Sir Alexander MacCormick for rectal cancer by the sacral route, the growth had been pronounced adenocarcinoma by Professor Welsh and the woman had subsequent to that operation given birth to five children. After the excision of the hepatic flexure (six years ago) she was very well till a few weeks ago when she got a pain in the epigastrium while hanging clothes on the line and felt a lump at the same site. She presented herself for examination, still looking fat and well and a movable mass was palpable, so I advised laparotomy. Unfortunately, the tumour proved to be a mass of glands round the cœliac artery and there were deposits in the liver.

A female, Mrs. E.T., aged fifty-two years, first came under notice at the Coast Hospital eighteen months ago with a history of one recent attack of abdominal pain and a second of a few days' duration culminating in absolute constipation. On examination I found she had large gut obstruction and performed right lumbar colostomy. A few weeks later laparotomy revealed a descending colon in which polypi were palpable through the bowel wall and suspecting that there would be a growth above, I found such in the descending colon and higher up another at the splenic flexure, the latter being the real cause of obstruction. I removed bowel from the middle of the transverse colon to the lower part of the sigmoid, doing an end to end anastomosis. On the bowel subsequently being opened, polypi were seen to be present right up to the line of my incisions at both ends (see accompanying figure). The patient did very well, but the colostomy would not close, so a few weeks ago I opened the abdomen again and found a third growth right at the site of my previous anastomosis. I suppose the stitching had stirred the cells of the polypi into activity.

Figure Showing Polypi in Colon Removed at Operation.

I have at least in two other cases met a double carcinoma in different parts of the great bowel.

The youngest patient whom I have treated with large bowel cancer was a blacksmith of twenty-seven, for whom I did an abdomino-perineal resection for cancer of the rectum. He returned to his trade and was quite well two years after the operation and is still, so far as I know. The oldest is a gentleman of eighty-seven, on whom I performed right lumbar colostomy for sigmoid growth eighteen months ago. He has an hypertrophied prostate, an inguinal hernia and very "pipe stem" arteries and as he nearly died of uræmia at the time of colostomy, I have advised against excision. The patient leads quite a tolerable existence, but is able to afford the luxury of a nurse.

Fish Bone Case.

Some two years ago a very well nourished man of about forty was admitted with all the signs of obstruction. I was unable to determine whether the large bowel or the small bowel was involved and proceeded to do a laparotomy. On reaching the peritoneum, I felt what was apparently a growth of the sigmoid, hard and fixed to the parietes, so I closed the incision at once and performed right lumbar colostomy. When I opened the abdomen a fortnight later, the growth had vanished, but there were numerous adhesions about and on separating the bowel, out jumped a fish bone of the large schnapper variety. Evidently this had perforated the sigmoid and set up an intense inflammatory action which put the bowel out of its normal function. The man made an uninterrupted recovery and I subsequently closed his lumbar colostomy.

Statistics.

Cases of the colon (excluding rectum) treated at the Royal Prince Alfred Hospital from November, 1912, to December, 1926, are as follows:

Total cases	150
Male patients	74
Female patients	76
Patients cured	30
Patients relieved	14
Not specified	7
Patients unrelieved	40
Patients died	59
	Years.
Average age	55
Oldest patient	80
Youngest patient	27

There were 150 patients with cancer of the rectum at the Royal Prince Alfred Hospital during the period 1910 to 1926.

The Coast Hospital series for the period 1922 to 1926 is as follows:

Cancer of the rectum	44
Cancer of the colon	44
Cancer of the bowel	5
Cancer of the pancreas	4
Other abdominal cancers	9
Total	116
Patients cured	15
Patients relieved	39
Patients unrelieved	20
Patients died	42

The site of the growth in the Royal Prince Alfred Hospital series of 150 cases is as follows:

Caecum and ascending colon	23
Hepatic flexure	2
Transverse colon	21
Splenic flexure	5
Descending colon	21
Sigmoid colon	63
Not specified	15
Total	150

The signs and symptoms in the Royal Prince Alfred Hospital series are as follows:

	Cases.
Pain	38
Pain and constipation	17
Pain and vomiting	10
Pain and mass palpable	9
Pain, constipation and vomiting	3
Pain, constipation and mass palpable	3
Pain, constipation, vomiting and mass palpable	1
Pain and indigestion	3
Constipation	20
Diarrhœa	18
Constipation and diarrhœa	6
Blood in fæces	18
Constipation and mass palpable	3
Indigestion	4
Distension	4
Weakness	1
Admitted unconscious	1
Previous colostomy	4

It will be seen at once, especially as the standard of cure is merely discharge from hospital in apparent good health, that the results in both series of cases are far from satisfactory and that cancer of the large intestine in the present state of our knowledge is a very fatal disease. The only hope of improvement lies in early diagnosis.

Reviews.

A TREATISE ON EXOPHTHALMIC GOITRE.

"EXOPHTHALMIC GOITRE" by Dr. John Eason presents most of the modern work on the subject in a readable way.[1] The author has no original view to propound, unless it be that the symptoms and signs of exophthalmic goitre are not due to over-action of the sympathetic nervous system alone, but to a general cell over-activity in which the sympathetic neurones participate. He asserts that many symptoms and signs, on the contrary, are due to parasympathetic over-activity. He considers that the relative preponderance of the sympathetic or the parasympathetic in each individual case depends on the autonomic balance of the patient (whether vagotonic or sympathetico-tonic) irrespective of the development of the exophthalmic goitre. This merely exaggerates the autonomic phenomena in common with over-activity of every other cell in the body. It is this increased metabolism due to hyperoxidation that he regards as the disease syndrome. The author is attracted by the views of Williamson and Pearse on the histopathology of the thyreoid. He reproduces their conceptions immediately he has described the older view. This doubtful acceptance of the more modern conceptions results in a certain indefiniteness in the book noticed most in classification. Nevertheless he reserves some scorn for the "so-called toxic adenomata" and prefers the term "multiple nodular hyperplasia." Incidentally he does not warn against the danger of the administration of iodine in this condition.

In the chapter on pathogenesis he makes statements that are profoundly true. "The fundamental conception of exophthalmic goitre is that it is a disorder which is due to a kinetic vicious circle. *A priori* this may have its beginning at any link in the chain of the vicious circle." Again: "Of exciting factors by a very long way first in importance are those that operate through the emotional centres of the brain." In the chapter on prognosis he says: "The spontaneous course of the average case of primary exophthalmic goitre is towards gradual arrest provided the individual is not again exposed to any exciting causes of the syndrome." As evidence of this he speaks of a discussion in which every speaker reported at least one cure without any of the methods of treatment being identical. On page 155 he writes: "It is necessary to deduct from the alleged benefits of all forms of treatment that amount of improvement inevitably associated with rest."

When he deals with treatment he urges removal of focal sepsis on the principle indicated by the proverb concerning the last straw.

He places removal of emotional strain first in importance; physical rest a close second. Iodine (the administration of which is well described) is also advocated. "Insulin" is advised in emaciated patients when acidosis generally is present, but in doses less than thirty units *per diem*.

When medical treatment fails, the author is very firm in his advocacy of subtotal thyreoidectomy. When surgery is impossible he prefers radium to X rays on account of the emotional effect of the noise and mystery of the latter agency.

The illustrations are numerous, the photography is good and the book is well printed. It has an extensive bibliography. Altogether it is a valuable book for any practitioner. The criticism concerning indefiniteness is perhaps carping, considering the gaps in our knowledge of causation in this interesting syndrome—a link between mind and body.

DIAGNOSIS IN NERVOUS DISEASES

THE third English edition of the compendium written by Professor Robert Bing, of the University of Basle, translated from the sixth German edition by Dr. F. S. Arnold, has come to hand.[1] To neurologists the work needs no introduction, to others we may indicate that it deals with the applied anatomy and physiology of the central nervous system in special reference to localization. The plan is to take the divisions of the central nervous system *seriatim* —spinal cord, midbrain, cerebellum, cerebrum, basal ganglia and hypophysis—look at the anatomy and physiology of each and show what must result clinically if this or that structure or part is damaged or destroyed. The correctness of the teaching principle will not be denied. It must be obvious that it is just as impossible to locate disease in the nervous system without knowledge of structure and function, as it is for the surgeon to operate without anatomy or the physician to prescribe without pharmacology. But there is a drawback which applies to all works of this kind, and it is that just as ordinary anatomy and physiology cannot be learned without dissection and demonstration, so and even more so the intricacies of the nervous system cannot be learned from the book alone. Accordingly, although we look upon this as an excellent compendium, well-conceived, accurate and copiously illustrated, we cannot but feel that its use will be restricted to specialists and to special students of the nervous system in contact with a teaching school or a mentor such as Professor Bing. The translator in conveying his meaning with perfect clearness throughout has done so well that occasional lapses into German construction may be overlooked.

[1] "Exophthalmic Goitre," by John Eason, M.D., F.R.C.P.E.; 1927. Edinburgh: Oliver and Boyd. Royal 8vo., pp. 227, with illustrations. Price: 12s. 6d. net.

[1] "Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord," by Robert Bing, Translated from the Sixth German Edition by F. S. Arnold, B.A., M.B., B.Ch. (Oxon.); Third Edition; 1927. London: William Heinemann (Medical Books), Limited. Crown 4to., pp. 219, with illustrations. Price: 15s. net.

The Medical Journal of Australia

SATURDAY, JUNE 25, 1927.

Ultra-Violet Rays.

BEFORE the commencement of the present century light and heat were employed to a certain extent as therapeutic agents and both were recognized as sources of pathological changes. It was assumed that the action of the two agents was the same. *Erythema solare* was regarded as a special form of heat effect and no attempt was made to distinguish between sun burn and fire burn. On the other hand it was generally taught that *lentigo* was caused by direct or diffuse sunlight, not heat, stimulating the pigment activity, especially in summer time when this activity was greatest. Hebra, however, challenged the sunlight hypothesis on the ground that freckles occurred at times in unexposed areas of skin. The discovery by Röntgen of X rays at the end of the nineteenth century marks the beginning of a serious study of the physiological action of light and other rays on the living organism. There were many observed facts to guide the investigator in his search. Exposure to sunlight is followed by varying alterations in the skin and in the body, some of which appear to be beneficial and others deleterious. The nature of the changes appears to be determined partly by the quality and extent of the sunlight and partly by the protective powers of the organism. The curative action of sunlight in tuberculous lesions of the bones, joints, skin and possibly also the deeper organs can be traced to a definite bactericidal effect of rays at the violet end of the spectrum and beyond. If the sunlight exposure is prolonged and intense, the skin reacts by becoming hyperæmic, swollen and tender. The erythema may be so severe that destruction of the epidermis and even of the *cutis vera* may follow. The irritant action of sunlight has been proved to be largely effected by ultra-violet rays, although red and infra-red rays may contribute to the reaction. It would appear that the formation of freckles and slight degrees of sun burn pigmentation represents an incomplete response on the part of the organism to protect itself against the damaging effects of ultra-violet rays. In the next place the combined committee of the Lister Institute of Preventive Medicine and the Medical Research Council discovered in the course of the inquiry into the nature of rickets in Vienna that ultra-violet rays play an important part in the maintenance of calcium metabolism. Children exposed to sunlight were cured of their rickets or the disease did not appear, notwithstanding the fact that they were fed on diets deficient in the antirhachitic accessory food factor. Sunlight filtered through glass windows does not have this effect. In other words the action cannot be attributed to actinic rays, but is obviously a result of ultra-violet irradiation. The study of the therapeutic action of Finsen light or other forms of so-called artificial sunlight has led to the accumulation of data in connexion with the whole subject. Last week we published a very valuable article by Dr. E. H. Molesworth on rodent ulcer. In this article he adduces strong evidence in favour of an interesting hypothesis. It is that *lupus vulgaris* is rare in Australia because the abundant sunlight in this part of the world provides sufficient ultra-violet rays to prevent the growth of tubercle bacilli in the skin. In England where exposure to intense sunlight is intermittent and of short duration, lupus is very common. On the other hand rodent ulcer, he shows, is common among persons who are exposed to the direct action of the blazing sun in Australia. It occurs on those parts of the body which are the least protected, such as the cheek, while epithelioma which is histologically similar to rodent ulcer, occurs on the lower but not on the upper lip. It is unnecessary to restate Dr Molesworth's case; he has given his arguments in a most admirable manner. From this evidence and from much that has been collected before, it may be concluded that ultra-violet rays exert a bactericidal action which becomes manifest at some depth from the surface, that they stimulate calcium and phosphorus metabolism, that they accelerate tissue change in the skin and to some extent throughout the body and probably that they further the secretion of the endocrine glands, especially the parathyreoid glands. In the next place these rays may give rise to a hyperæmic reaction in the skin and

subcutaneous tissue of varying intensity. If the organism responds in a protective manner, pigment may be deposited in the skin in one form or another. If the tanning is dense, it may act as an adequate barrier to the passage of the ultra-violet rays. If the protection of pigment is absent or insufficient, the rays may stimulate and irritate the tissue cells which lie in their path. The result of excessive stimulation by ultra-violet rays like X rays is hyperplasia with ultimate disorderly overgrowth.

The work of Moppett has demonstrated that the stimulating effect of X rays is not a question of overdose so much as of rays of particular wave lengths. If monochromatic X rays of a certain wave length act primarily as destructive agents and those of another wave length act as stimulants to overgrowth of cells, it would be reasonable to expect the same selective action of ultra-violet rays. These rays have a wave length of from 2,100 and 3,800 expressed in Ångström units. The range is therefore wide and the possibility that rays of varying wave length induce physiological responses of varying kinds cannot be lightly brushed aside. It is known that ultra-violet rays do produce a variety of changes, some health-giving, some protective, some mildly harmful and some grossly deleterious. This problem should be studied from the point of view of the physical properties of rays extending beyond the violet end of the spectrum.

Current Comment.

HETEROTOPIA.

THE word heterotopia is derived from the Greek ἕτερος, other and τόπος, a place. A heterotopic tumour, therefore, is one in which the cell structure differs radically from that of the parent tissue. Tumours of this nature have a double interest. They may be looked at first from what may be called the academic point of view—how it comes to pass that cells are "out of place." There is also a certain clinical interest centralizing around the relationship of the heterotopic tissue to pathological changes in the parent tissue and the possible changes which the heterotopic tissue may undergo. In October, 1923, heterotopic tumours were discussed in these columns in connexion with work by Nicholson. Nicholson concluded that there are no reasons against the assumption that heterotopic tumours originate in the epithelial cells of the organs in which they are found. Their histiogenesis is to be explained by metaplasia, a dedifferentiation, followed by an atypical redifferentiation of differentiated cells and not by displaced cell rests or other congenital malformations. The epithelial heterotopic tumours of the alimentary tract have recently been investigated by A. L. Taylor.[1] He has studied one hundred and thirty heterotopic tumours. One hundred and ten were received from the operation theatre and *post mortem* room of the Leeds General Infirmary and twenty came from outside the institution. Sixty-nine were gathered during the period of study and this fact is quoted as evidence of the frequency of the condition. He divides heterotopias into two main classes, superficial and deep. In the former the process is merely one of substitution in the epithelial lining of the gut and does not involve the deep layers. The epithelial structures of the alimentary canal with the exceptions of the mucous glands of the œsophagus and Brunner's glands of the duodenum, are confined strictly to the inner side of the *muscularis mucosæ*. Thus glandular structures present beneath this muscular boundary (with the two exceptions already mentioned) must be regarded as deep heterotopia. Epithelial heterotopia may make its appearance in embryonic life when the intestinal epithelium is actually growing or it may arise after birth following local destruction of tissue by inflammatory processes. It may thus be congenital or acquired. This classification is useful. The congenital heterotopias appear to be confined almost without exception to the upper portion of the alimentary canal. Taylor discusses those in his series in considerable detail. In the first place it must be pointed out that in the superficial congenital heterotopias there is a substitution of a portion of the mucous membrane by areas of mucous membrane foreign to that part, but normal to some other intestinal region. They invariably manifest an adult structure. The deep congenital heterotopias also contain only those types of cell which are normally found in some region of the alimentary tract. The structure is varied and the most frequent constituent is pancreatic tissue. In some of the adenomyomata a lack of differentiation may be manifest.

In regard to the clinical significance of this condition some points of importance are noted. In one instance a tumour-like mass was found in the ileum about twenty-five centimetres from the ileo-caecal valve. The mass consisted of tall gastric glands almost entirely of the fundal type and rich in oxyntic cells. On one side there was a sharp transition to glands of the intestinal type and on the other side near the site of junction there was found an extensive ulceration involving the *muscularis mucosæ*. The ulceration occurred not in the aberrant glands, but in the adjacent normal intestinal mucosa. An explanation offered is that an acid secretion formed by the heterotopic glands may have devitalized the neighbouring epithelium and rendered it susceptible to an infection which would otherwise have been easily overcome. This is, of course, pure conjecture. Obviously the fundal

[1] *The Journal of Pathology and Bacteriology*, April, 1927.

oxyntic cells had something to do with the ulceration. It is interesting to consider what part hormonic control would play in these circumstances. Presumably the heterotopic gastric cells would be under the same hormonic control as those of the stomach. At the same time the free surface of the mass of tissue would be bathed by an alkaline instead of an acid medium. The question might naturally be asked as to why ulceration was confined to one side of the implanted mass and also as to why ulceration does not occur more frequently in association with gastric heterotopic tumours in the intestine. If the cause of gastric ulceration were definitely known, it might be possible to answer these questions and conversely, if these questions could be answered, they would shed light on the cause of all forms of intestinal ulceration.

Another observation of clinical significance was made in connexion with intestinal gland heterotopia of the stomach. Intestinal heterotopia was found in thirty-six of a series of one hundred and fifty eight stomachs removed at surgical operation. In the "vast majority" of these a typical long history of symptoms leading to a diagnosis of gastric ulcer was present and partial gastrectomy was performed. Significance is attached to the fact that all the examples in the series were discovered accidentally during routine microscopical examination of stomachs removed surgically for ulcer or cancer. Although the association with gastric ulcer and malignant disease has to be considered in connexion with acquired heterotopia, it must be pointed out here that Taylor gives several reasons against the existence of any relationship between superficial heterotopia and gastric ulcer and malignant disease. In the first place in five out of eighteen stomachs examined with this object in view, areas of heterotopia were found in parts of the stomach remote from the ulcer. In only two of the thirty-six cases were the intestinal glands found at the edge of the ulcer. In the remainder they were some distance away from the crater and manifested no inflammatory change whatever. Heterotopic areas in a stomach are usually multiple and chronic gastric ulcer and carcinoma are usually single. Gastric ulcer is usually found in the middle third near the lesser curvature and carcinoma near the pyloric region, but heterotopic areas may occur in any part of the organ. The differentiation of the heterotopic areas is complete and the arrangement is as normal as in the intestinal mucosa. Moreover, since primary carcinoma of the small intestine is very rare, it is extremely unlikely to arise in epithelium of the intestinal type, even though this is found in the stomach. Such are Taylor's reasons for disclaiming any relationship between these conditions, but it may be noted that the same questions in regard to hormonic control may be asked here as were asked in connexion with gastric heterotopia in the small intestine.

In discussing acquired heterotopia Taylor points out that what he calls the regenerative type of deep acquired heterotopia arises in the walls of destructive lesions of the stomach by the rapid growth of newly-formed epithelium. In an examination of one hundred and twenty-six stomachs he found tissue of this type thirty-three times. He states that growth, whether physiological or malignant, must have its origin in undifferentiated cells, since complete differentiation is incompatible with growth. He holds that islets of heterotopic epithelium of the sort described by him have not infrequently been mistaken for malignant disease. In this way he accounts for the statement that 60% to 70% of chronic gastric ulcers show histological evidence of malignant disease. This will be of interest to readers of this journal in view of the fact that Devine has recently thrown down the gauntlet to those who claim that cancer supervenes on chronic gastric ulcer. Taylor admits that malignant disease does supervene on chronic gastric ulcer in a certain number of cases, but the evidence in his opinion suggests that it does not take origin in a malignant transformation of heterotopia, but in an atypical growth of undifferentiated cells which are not represented in the heterotopic tissue. In other words malignant disease is independent of heterotopia, but both conditions may arise in destructive lesions.

The only point remaining for discussion is Taylor's view of the origin of heterotopic tumours. He regards the congenital heterotopias as dysontogenetic structures, that is, structures arising in the individual from abnormal differentiation of the embryonic entoderm when this is compelled by abnormal stimulation to follow an atypical course of development. This view is somewhat similar to that expressed by Nicholson. At the same time he points out that in their distribution and in their antimesenteric situation the congenital heterotopias correspond closely with the diverticula occurring in the intestine of the embryo. He holds that they arise from embryonic diverticula which abnormally persist. If this is so, the subsequent process cannot be one of "abnormal differentiation," it is not far removed from that which would occur according to Cohnheim's embryonic cell rest theory. Taylor has not made his position sufficiently clear. He cannot have it both ways. Probably he means to indicate that in some cases diverticula may persist and go on developing and that in others an abnormal differentiation occurs, but he does not make this statement. In regard to the superficial heterotopias of acquired origin he holds that they are produced by an error of differentiation in the regenerative process accompanying ulcerative lesions. They spring from the "indifferent" cells normally present, when under abnormal stimulation there is a reappearance of an alternative cell character which was previously latent. The question to be decided is whether they result from an abnormal response to a normal stimulus or from a normal response to an abnormal stimulus. In either case the result will be a tissue different from that surrounding it, in other words a so-called heterotopia. If, however, the result is dependent on an alternative normal response, the appearance of latent characteristics, as a result of an abnormal stimulus, in other words if the process is one of prosoplasia, it will be correct to state that the final tissue is not fundamentally a true heterotopia.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on May 26, 1927, DR. F. BROWN CRAIG, the Acting President, in the chair.

Radiology and Diseases of the Colon.

DR. J. G. EDWARDS read a paper entitled: "Radiological Aspect of Diseases of the Colon" (see page 916). He illustrated his remarks by a series of lantern slides in which were depicted the appearances resulting from the administration of bismuth meal and opaque enemata.

DR. H. R. SEAR also demonstrated by means of lantern slides a series of skiagrams. He dealt with congenital abnormality, incipient malignant disease, colitis, the various stages of diverticulitis, intussusceptions and so forth.

Surgery of the Colon.

DR. J. COLVIN STOREY, O.B.E., read a paper entitled: "The Surgical Aspects of Diseases of the Colon" (see page 917).

PROFESSOR F. P. SANDES said that he had enjoyed both the papers and the demonstrations. So many points had been brought up that it was possible to refer merely to a few of them. The classification of diseases of the colon adopted by Dr. Storey was eminently satisfactory from the practical point of view. It was one which he always taught to his students. He was reminded by Dr. Storey's reference to embryological abnormality of one patient with an interesting history. Operation had been performed by Dr. Clubbe sixteen years previously for intussusception. The patient's parents had stated that caecum and appendix were removed at the time of this operation and the history and location of the scar certainly suggested this probability. Laparotomy had then been performed for subacute intestinal obstruction with temporary relief. Two weeks later obstruction occurred again and during operation a normal caecum and appendix had been found in the neighbourhood of the spleen. It was also necessary to remember the "pancreatic" position of the appendix and the occasional left iliac fossa position. In regard to the membranes mentioned by Dr. Storey, Professor Sandes thought that they occurred more frequently than was supposed. It had been taught that they were the result of old inflammation, but it should be recognized that they were due to persistence of peritoneal folds which had not atrophied. Cases of diverticulitis might easily be missed if the diverticula were packed with fæcal material, for in these circumstances the opaque enema could not pass into the diverticula. In regard to the treatment of diverticula he recalled two cases in which cure had been effected by colostomy. One patient, a well-known artist, had been operated on at Saint Bartholomew's Hospital, London, in 1901. A diagnosis of inoperable carcinoma had been made, but after the performance of colostomy the thickening had disappeared. Undoubtedly this was a case of unrecognized diverticulitis.

Professor Sandes congratulated Dr. Storey on the fact that his paper had not been a textbook dissertation, but was concerned with his own experiences and those of others with whom he had been associated. For this reason they should be grateful to him. He did not agree that the operation of right lumbar colostomy should be performed in all cases of acute obstruction. Had he had charge of Dr. Storey's patient with the fish bone, he would probably have explored the mass. Nevertheless Dr. Storey had obviously played for safety. He was in entire agreement with Dr. Storey's remarks on anastomosis of distended bowel. It was very important, especially for young surgeons, to recognize that only a minimum of actual work should be done in these circumstances. It would appear that in the presence of chronic obstructions some patients developed a certain amount of resistance to their own coliform organisms. If at the operation the peritoneum was fouled and a suitable drain was put down to the affected area, the patient generally recovered.

DR. H. C. RUTHERFORD DARLING congratulated the authors on the high standard of their papers. He had been interested in diseases of the colon for some considerable time. Dr. Edwards had recently made a diagnosis for him in ten or twelve cases of diverticulitis. This could not be looked upon as one identity. It occurred in various stages. There was the diverticulum which sloughed and gave rise to general peritonitis. In this type it was often impossible to close the perforation owing to the stitches cutting out and the inflamed portion of the colon had to be excised. In the presence of extensive pericolitis, especially when a large area of bowel was involved, a colostomy was frequently performed. This allowed the inflammatory process to subside slowly, but the resulting fibrosis of the bowel in a position of rest frequently led to difficulties being encountered in the subsequent endeavours to close the colostomy and reestablish the continuity of the colon. He had himself been caught in this trap and the patient had to be left with a permanent colostomy owing to the lumen of the distal portion of the bowel being practically obliterated. In many of these cases he had had success with the operation which Dr. Storey so despised, appendicostomy. When this operation was performed, the patient could be taught to wash out his own bowel. An improvement occurred, but Dr. Darling did not know why. Dr. Edwards had controlled the results obtained. In ulcerative colitis appendicostomy was of the utmost value. He had operated on a patient at the Coast Hospital for Dr. Willcocks. The patient had passed as many as twelve to twenty-four bloody stools a day and he had been cured by appendicostomy. In conclusion Dr. Darling referred to the question of lumbar colostomy. This operation was attended by two disadvantages. In the first place it was frequently followed by cellulitis of the loin. In the second place it was difficult to make a satisfactory spur; hence not only did fæces tend to pass into the distal lumen, but the opening also tended to close. Furthermore the surgeon was unable, should the general condition of the patient permit, to examine the site, nature and extent of the obstruction. For these reasons the operation had been abandoned and abdominal colostomy or caecostomy had been adopted.

DR. ARCHIE ASPINALL thanked Dr. Storey for the way in which he had dealt with the subject. He had hoped to bring forward some statistics in regard to the results obtained at the Sydney Hospital, but had been unable to do so. He could, however, assure those present that they were as depressing as those quoted by Dr. Storey. The age of Dr. Storey's youngest patient was twenty-seven. Dr. Aspinall had had one patient of the same age. She had been perfectly well until symptoms of obstruction occurred. He had operated and had found a cancer of the transverse colon with extensive involvement of the glands. He had excised the growth and had left a blind end in the ascending colon and in the splenic flexure. The patient had had a mobile sigmoid colon and he had anastomozed the caecum and the sigmoid. He had been afraid that the blind ends would prove disadvantageous and act as sinks. All had gone well, however, and the patient put on weight and the bowels acted without difficulty. After three years she had come to see Dr. Aspinall and had been apparently quite well, but six weeks later she had been admitted with secondary deposits throughout the abdomen. Another patient had been admitted with acute intestinal obstruction due to cancer of the hepatic flexure after being treated by a physician for gastritis, all the symptoms coinciding with that view. No X ray examination had been made. A right lumbar colostomy had been performed and a Paul's tube after insertion had slipped out and symptoms of obstruction recurred. The lower portion of the wound had been reopened and a catheter inserted into the distended bowel which proved to be ileum. After a few weeks the patient's condition was much improved and the abdomen had been opened again. On this occasion the malignant tumour was removed, together with the lower portion of the ileum, the ascending and large portion of the transverse colon, a wide lateral anastomosis being performed. The wound had healed by first intention. After three years no recurrence had been found. Dr. Aspinall held that this case illustrated the life saving property of enterostomy and the immunity acquired by patients to coliform organisms was shown by the wound at the second operation healing so well.

Dr. Aspinall then referred to diverticulitis and to the history of a patient whom he had seen in the out-patient department. He had shown this patient to a group of students as suffering from typical appendicitis with an abscess formation. Immediate operation had been undertaken and it was expected that the omentum would be found wrapped round an acutely inflamed appendix or abscess. To his surprise the appendix had been normal and the condition was due to an inflamed *appendix epiploicæ* due to a small diverticulum which was removed. Dr. Storey's account of the discovery of a fish bone reminded him of a case in which he had opened the abdomen of a patient after a diagnosis of malignant disease of the sigmoid was made as a result of X ray examination. diagnosis of malignant disease of the sigmoid was made. The patient's temperature had been raised and Dr. Aspinall had found a tumour of the sigmoid as large as a closed fist attached to the parietal peritoneum. On examination the mass had appeared to be largely inflammatory and while he was wondering what to do, he had felt something like a needle in the bowel just where it entered the tumour. He had pushed this through the wall and found it to be a wooden tooth pick. He had closed the abdomen and the patient made a good recovery. The patient had been dining not wisely but too well and while drinking a cocktail had evidently swallowed the tooth pick attached to an olive. On his discharge the patient had promptly got drunk and after three months was admitted in a state of diabetic coma and died. At *post mortem* examination the only abnormality found in the abdomen was an adhesion or two in the neighbourhood of the sigmoid, showing how completely an inflammatory mass disappeared.

Dr. P. Fiaschi referred to the question of control of a temporary or permanent iliac colostomy and demonstrated a simple apparatus, readily made, which he had elaborated a number of years previously for probably the first abdomino-perineal extirpation of the rectum and pelvic colon with a permanent iliac anus performed in Australia by his father. It consisted of the pneumatic face piece of an ordinary ether inhaler fitted to a flat piece of brass of its own shape forming a pad. The outer surface of the metal portion of the pad was provided with tags to which the snap hooks of an elastic belt were attached. In conclusion Dr. Fiaschi congratulated Dr. Storey on his paper and referred to the operation of appendicostomy. He had seen Weir, of New York, perform the first appendicostomy. This operation had been aptly described by Weir as "a new use for the useless." When Murphy's buttons were extensively used twenty-five years previously in America house surgeons had been taught to examine the rectum every day after the seventh day, because the button frequently lay for some time in the ampulla of the rectum.

Dr. Storey in reply referred to the way in which Sir Arthur Keith had without mentioning names emphasized his belief that Lane was wrong in regard to kinks of the bowel. It was his opinion that their importance had been very much overdone. In reply to the remarks of Professor Sandes on the fish bone case he said that if Professor Sandes had seen the condition of the patient's abdomen, he would certainly have refrained from exploration. In reply to Dr. Darling he admitted that right lumbar colostomy was an old-fashioned operation, but it was the best. It might occasionally cause some cellulitis. The cellulitis, however, was not severe and did not endanger the patient's life. The advantages were the rapidity with which it could be performed, the fact that excessive handling of the patient was avoided and that at a second operation the surgeon had to deal with what was practically a virgin abdomen. No adhesions would be present and operation would not be difficult. His faith in the operation had not been shaken. In regard to Dr. Aspinall's remarks about the immunity to coliform organisms, he said that they had all seen cases in which on opening the abdomen the bowel was found to be gangrenous. If there was inflammatory reaction around the area, if it was walled off and adequate drainage was provided, the patient would do well, as far as immediate prospects of life were concerned. Dr. Storey congratulated Dr. Fiaschi on his apparatus for permanent colostomy. He held that a permanent colostomy was more satisfactory than repair by Kraske's operation. The bowel could be trained to act and the patient got quite used to the condition of affairs.

NOMINATIONS AND ELECTIONS.

The undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

Lieberman, Hyman Barnett, M.B., Ch.M., 1926 (Univ. Sydney), 41, Darley Road, Randwick.

Unwin, Maurice Leslie, M.B., Ch.M., 1925 (Univ. Sydney), Southwinds, Burrawong Avenue, Clifton Gardens.

Culey, Arthur Charles, M.B., Ch.M., 1926 (Univ. Sydney), Karula, Neirbo Avenue, Hurstville.

Medical Societies.

THE ALFRED HOSPITAL CLINICAL SOCIETY.

A meeting of the Alfred Hospital Clinical Society was held at the Alfred Hospital on May 31, 1927.

Poliomyelitis.

Dr. W. S. Laurie showed a boy, aged five years and eight months, who had been admitted to hospital on April 23, 1926, after four days' illness. Examination had revealed complete paralysis of the right leg with absent tendon reflexes and paresis of abdominal muscles on both sides and of the gluteal and back muscles. Severe pains had been present in the right shoulder and arm, but no paralysis. Lumbar puncture had revealed seventy-one lymphocytes per cubic millimetre and a diagnosis of poliomyelitis was made.

On the following day thirty cubic centimetres of serum for poliomyelitis had been given by intravenous and ten cubic centimetres by intramuscular injection. The condition had gradually improved and massage and reeducation of paralysed muscles was instituted. At the time of the meeting the patient could walk well and had some power in all muscles, but there was still weakness in certain muscles. The right knee jerk had returned.

Dislocation of the Head of the Radius.

Mr. H. C. Colville showed several patients who had suffered from anterior dislocation of the head of the radius with fracture in the upper third of the ulna. Three children had had injury to the upper extremity resulting in fracture of the upper third of the shaft of the ulna with forward dislocation of the head of the radius. The first was a boy of nine who had been brought to the hospital on February 4, 1927, immediately after an accident. Clinical and X ray examination had revealed the above-mentioned lesion. He had been operated on a few days later and the head of the radius was found to be reducible by combined flexion and traction on the forearm, but the displacement was found to recur unless the elbow was kept fully flexed. This position had accordingly been maintained, while the ulna fracture was exposed and the fragments brought into opposition and fixed by a stout catgut suture through two drilled holes. Full flexion had been maintained during the first four weeks of the after treatment and thereafter active movements had been instituted. At the time of demonstration (four months after operation) the elbow was normal from the anatomical and functional points of view.

The second patient was a girl of seven who had had an accident one year before she was brought to hospital. The fractured ulna had united, but the head of the radius was still dislocated. She had been operated on and the capsule of the elbow joint opened through a postero-lateral incision. The anterior part of the capsule had been incised from within and the head of the radius pulled back

into position through the opening. Full flexion had been maintained during the after treatment. At the time of showing (four months after operation) the head of the radius was in almost normal position, but there was some limitation of both flexion and extension of the elbow joint as a whole.

The third patient, a child of two, had the same history and findings as the second child, but had not yet received any treatment.

Mr. Colville said that these patients demonstrated the importance of early treatment of this condition, if a good result was to be obtained. Suggestions were asked for as to any more satisfactory method of dealing with late cases of dislocation of head of the radius.

MR. A. J. TRINCA congratulated Mr. Colville on his results and advised that the third patient be left alone, as his arm was almost functionally perfect and in accordance with Wolfe's law a surgeon would expect considerable adaptation of structure and function in a child of only two years.

Legg's Disease.

MR. A. J. TRINCA showed a patient suffering from Legg's disease of both hips. The patient, aged twelve years, had a history of wasting of the left lower limb which had been noticeable for thirteen months. The child fell when he tried to run and walked with a limp and had pain in both hip joints. Anæmia and loss of weight were present. No history of hernia could be obtained.

Inquiry disclosed the fact that the child had been breast fed for three months and then in the words of his mother had been "nearly killed by artificial food." Examination revealed wasting of the left lower limb, 3·5 centimetres in thigh, 2·0 centimetres in calf and shortening of 1·75 centimetres. Abduction was slightly limited and painful. All other movements of the left hip were normal, there was tenderness over the posterior portion of the capsule of the hip joint. The right lower limb was entirely normal. X ray examination revealed very broad necks of both femora with *coxa vara* and flattening of the epiphyses. The acetabulum had a mamillated appearance on both sides. The condition was interesting on account of the light thrown on the ætiology of infantile malnutrition. As suggested by Calvé there was a possibility of this condition being rhachitic.

MR. A. C. COLVILLE discussed the traumatic and infective theories of Perthes's disease. He pointed out that the diagnosis was made by X ray examination and he did not think there was sufficient evidence to justify a diagnosis in the patient shown.

DR. W. S. LAURIE said that in his opinion the skiagram shown was lacking in essential points for the diagnosis of Perthes's disease. The modern opinion seemed to be in favour of a mild infective origin for Perthes's disease.

A Case for Diagnosis.

MR. H. C. TRUMBLE showed a patient with multiple lumps on the left forearm for diagnosis. The patient was a man aged thirty-three, who had noticed multiple small lumps about the size of peas under the skin of his left forearm for the past two years. There was neither pain nor disability. During the two years since the lumps had first been noticed, he thought that more than five had appeared and he was certain that the group as a whole had shifted from the radial to the dorsal side of the forearm.

On examination the nodules were found to be small, fatty, pea-like, apparently developed in the deep fascia on the dorsal and radial aspects of his right forearm.

No opinions as to diagnosis were offered and Mr. Trumble agreed to excise one of the lumps for pathological examination and to report the findings to the next meeting of the Society.

"Lipiodol Ascendens."

DR. J. F. MACKEDDIE showed films illustrating a failure of ascent of "Lipiodol ascendens." The patient had been suspected of having a spinal tumour; "Lipiodol ascendens" had been injected by lumbar puncture and had risen to the cervical region where it had appeared to be blocked. As this finding was not in accordance with the clinical picture, heavy "Lipiodol" had been injected by cisternal puncture and X ray examination showed that it dropped straight to the bottom of the spinal canal carrying the "Lipiodol ascendens" with it.

The technique used was that recommended and practised by the originators of "Lipiodol ascendens" and in view of this case Dr. Mackeddie urged caution in the diagnostic interpretation of skiagrams showing arrest of "Lipiodol ascendens" used for the location of spinal tumours.

Cerebral Tumour.

Dr. Mackeddie showed another patient suffering from a cerebello-pontine angle tumour with vermicular symptoms. The patient had an unsteady gait of a type suggesting a lesion of the *vermis* with involvement of the cranial nerves. Apart from the gait the limbs and trunk were neurologically normal.

The third, fourth, fifth, sixth and eighth cranial nerves on the right side were completely paralysed. The seventh nerve on the left side was affected and there was definite evidence of pontine involvement. No reaction had occurred to the Wassermann test.

He thought the condition was one of cerebello-pontine angle tumour or of a tumour of the *vermis* and he intended to recommend deep therapy as the most hopeful method of treatment.

Post-Graduate Work.

LECTURES IN LAUNCESTON.

A POST-GRADUATE COURSE was held at the Launceston Public Hospital from June 2 to June 4, 1927, DR. H. D. STEPHENS, Honorary Surgeon to the Children's Hospital, Melbourne, giving lectures and demonstrations. The course was largely attended by the practitioners of the city and surrounding districts.

Abdominal Conditions in Children.

On June 2, 1927, Dr. Stephens gave a clinical lecture on "Abdominal Pain and Difficult Abdominal Conditions in Children." He gave a general description of acute appendicitis and said that there were three signs of great value: (*a*) A coated tongue, (*b*) an offensive breath, (*c*) localized rigidity of the abdomen. This latter he thought was the most important sign, he emphasized the fact that the temperature was rarely over 38·9° C. (102° F.). He discussed the different positions of the appendix with the corresponding difference in the symptoms and signs.

In regard to the differentiation of pneumococcal peritonitis from appendicitis the following points were of importance: (*a*) A history including diarrhœa, (*b*) the bright flush on the face, (*c*) the high pulse, (*d*) the raised respiratory rate, (*e*) a clean tongue and a non-offensive breath.

He said that if he were sure of his diagnosis he would not operate in a case of pneumococcal peritonitis until a localized abscess had been formed. In discussing acute pyelitis, he emphasized the fact that a febrile condition and a fractious irritability might be the only manifestations. An examination of the urine differentiated the condition.

He had operated for appendicitis on some patients suffering from early enteric fever. The condition found at operation was interesting, there being œdema of the Peyer's patches with little dilated venules over them.

He had frequently seen acute appendicitis associated with the acutely inflamed tonsils. There was another condition in which the appendix was normal, but the mesenteric and retroperitoneal glands were acutely inflamed and even contained pus. This condition was very difficult to differentiate from a condition in which tuberculous glands in the right iliac fossa had become secondarily infected. Sores on the legs might also cause inflammation of glands in the right iliac fossa which might be mistaken for appendicitis.

In discussing supradiaphragmatic lesions Dr. Stephens pointed out that pneumonia was frequently mistaken for appendicitis. The following points were of importance in differentiation: (*a*) The appearance of the child, (*b*) the rapid pulse rate, (*c*) the respiration was increased out of proportion to the pulse and temperature, (*d*) the tongue was clean, (*e*) the breath was not offensive, (*f*) a careful palpation of the abdomen revealed no tenderness, (*g*) the leucocytes numbered between thirty and forty thousand per cubic millimetre, (*h*) the vesicular murmur at one base was diminished.

Pericarditis might also be mistaken for an abdominal condition. Salpingitis was not uncommon in girls with a vaginal discharge and was usually gonorrhœal.

Congestion of the ovary occurred in girls in a premenstrual period. There was acute pain above the symphysis, accompanied by a little fever, a furred tongue, constipation and on rectal examination tenderness on both sides.

The distinguishing features of intestinal colic were: (*a*) The colicky pain, (*b*) pressure relieved the pain, (*c*) the number of leucocytes was not raised.

These were the main conditions to be differentiated. Other conditions he had met were: (*a*) Renal colic, (*b*) pain from a tuberculous spine, (*c*) pain from a psoas abscess, (*d*) iliac abscess from a sore on the foot or from acute arthritis of the hip, (*e*) gastric crises from cerebrospinal syphilis in children over ten, (*f*) lead poisoning.

Dr. Stephens then discussed certain difficulties met with in infants including pyloric stenosis, certain food disturbances and certain congenital abnormalities. This part of the lecture was illustrated with pathological specimens.

Clinical Demonstrations.

On June 3, 1927, in the morning Dr. Stephens visited the children's ward and gave a series of clinical demonstrations. The conditions discussed included a tumour in the chest, an associated tuberculous joint and gland and a case of probable pink disease.

Conditions of the Hip.

In the evening Dr. Stephens lectured on "Certain Hip Conditions in Children." The following conditions were discussed: Tuberculous hip disease, the full clinical picture was described and the criteria of cure were discussed; congenital dislocation of the hip; paralysis of the limb, causing limp and suggesting hip disease; pneumococcal arthritis; osteomyelitis; syphilis; hæmophilia; scurvy; Perthes's disease.

Dr. Stephens illustrated his lecture with many skiagrams and later demonstrated model splints used in the treatment of the conditions.

Splint Measurement.

On June 4, 1927, in the morning Dr. Stephens visited the children's ward and gave a demonstration on the measuring of children for splints.

Vote of Thanks.

At the conclusion of the course Dr. C. G. Thompson proposed a vote of thanks to the lecturer and was supported by Dr. G. E. Clemons and Dr. J. Ramsay. The speakers paid a tribute to the manner in which Dr. Stephens had handled his subjects, and to the extent of the ground which he had covered. They emphasized the extreme importance of the periodical visits of men from the big teaching centres to isolated places such as Launceston. The visits of such men as Dr. Stephens had a very stimulating effect on practitioners who were cut off for months from medical men other than themselves.

MELBOURNE PERMANENT COMMITTEE FOR POST-GRADUATE WORK.

The Melbourne Permanent Committee for Post-Graduate Work has been able to arrange through the courtesy of Dr. MacEachern, of the American College of Surgeons, a special visit by two distinguished Americans, Dr. Allen Kanavel, of the Cook County Hospital, and Professor Charles Elliot, North-West University, Chicago.

Dr. Kanavel is world-famous for his monograph on infections of the hand and for numerous other contributions to surgical literature.

Dr. Elliot is recognized as one of the leading physicians of North America and has contributed much to the knowledge of diabetes, jaundice and diseases of the thyreoid and spleen.

Dr. Kanavel will lecture on surgical problems connected with the hand, wrist and forearm and on some other surgical subjects. Dr. Elliot will lecture on diseases of the thyreoid and on jaundice. These lectures will be illustrated by lantern and cinematographic pictures.

The lecturers have only a limited time at their disposal, but each will give six lectures at the Medical Society Hall on the following dates:

Tuesday,	August 23,	8.15 p.m.—Dr. Kanavel. 9.15 p.m.—Dr. Elliot.
Wednesday,	August 24,	8.15 p.m.—Dr. Elliot 9.15 p.m.—Dr. Kanavel.
Thursday,	August 25,	8.15 p.m.—Dr. Kanavel. 9.15 p.m.—Dr. Elliot.
Monday,	August 29,	8.15 p.m.—Dr. Elliot. 9.15 p.m.—Dr. Kanavel.
Tuesday,	August 30,	8.15 p.m.—Dr. Kanavel. 9.15 p.m.—Dr. Elliot.
Wednesday,	August 31,	8.15 p.m.—Dr. Elliot. 9.15 p.m.—Dr. Kanavel.

In addition the Committee has made arrangements that during the fortnight members attending this course will have access without extra charge to all the routine work in the in-patient, the out-patient and special departments and in the operating theatres of the various metropolitan hospitals.

The fee for this course of twelve lectures is five guineas.

During the same period the annual course in obstetrics will be held at the Women's Hospital, Carlton, and members of that course may, if they wish, attend the special course in the evenings, on payment of the additional fee.

The Honorary Secretaries, Dr. J. W. Dunbar Hooper and Dr. Harold R. Dew, would be pleased to accept applications and receive subscriptions (which should be paid in advance) as soon as possible in order that they may know the number of practitioners likely to attend.

WINTER COURSE IN OBSTETRICS.

THE annual winter course of post-graduate work in obstetrics will be held at the Women's Hospital, Melbourne, from August 22 to September 5, 1927. The course comprises attendance in all the departments of the hospital for routine work, as well as at special lectures and demonstrations by members of the staff. Arrangements have been made whereby a limited number of graduates can enter into residence at the hospital.

The fees for this course are three guineas for clinical work, demonstrations and attendance at lectures and four guineas in addition for board and residence at the hospital per week.

It is hoped that members taking the course will avail themselves of the fact that it will be concurrent with the special series of lectures to be given by Dr. Allen B. Kanavel and Dr. Charles Elliot and endeavour to attend both courses.

Further details may be had from the Honorary Secretaries, Dr. J. W. Dunbar Hooper and Dr. Harold R. Dew.

Correspondence.

SURGICAL CONSCIENCE.

SIR: Into the controversy regarding the establishment or otherwise of a College of Surgeons I do not wish to enter, except in regard to principle. The motive behind this movement is obviously one of conscience, desiring to protect humanity from being submitted to maltreatment in incapable hands. What I desire to ask is, why is this conscience confined to supposedly incompetent surgeons? Fresh from my several hundredth experience of encountering advanced and untreatable disease rendered so by the delay involved in the machinations of a herbalist, I inquired of one of the promoters of the present surgical scheme why are charlatans allowed to spread their nets without interference by our senior men. The answer was: "Why protect fools from their folly?" Surely it is a shortsighted viewpoint which realizes humane considerations in one situation and not in the other and inconsistency at once arises if one situation is dealt with alone. Personally I find experiences such as the following intolerable and humiliating. Thus a leading commercial man, despite his protests, has found that he must submit to his wife visiting a Chinese for a nervous breakdown. Accompanying her for weeks to the charlatan's rooms he found difficulty in gaining admission on account of the rush of clients. Among these is an individual who was diagnosed four years ago as suffering from renal calculus, the diagnosis being confirmed by X rays. For this period the sufferer allowed himself to be convinced by the Chinese that the stone can be "dissolved." The pain being intolerable, a second X ray examination was recently performed and the calculus was reported as definitely enlarged. In spite of this my opinion was indirectly sought as to whether there was not still a hope that the Chinese could fulfil his promise. To while away the time of waiting the patient first mentioned attempted to estimate the amount of fees collected per day. One woman was paying £4 17s. 6d. per week for herbs and a probable estimate of the total takings was about £100 a day. Yet our hospital's starve for funds! I visit a building worth about £15,000 owned by this Chinese, whose sincerity can best be judged by the fact that on illness in his own family he flies to a medical practitioner in his neighbourhood! In the eradication of such pests our reputedly benevolent profession has failed in its protective benevolence, as far as the public is concerned. Admittedly the public in its ignorance does not appear to desire our benevolence in this direction. Suppliant methods will be of no avail and if no other measures can be adopted, let us as a corporate body stand for our rights. And if the Government demands of us the favour of a national insurance, let a basic condition be that this blight be eradicated from the community.

Yours, etc.,

June 4, 1927. GENERAL PRACTITIONER.

HERNIA.

SIR: IN THE MEDICAL JOURNAL OF AUSTRALIA, June 11, 1927, page 861, the reviewer on passing judgement on the monograph by E. M. Cowell "Hernia and Herniоplasty" says: "Upon the establishment of this principle"—namely the existence of a congenital sac—"depends the nature of the operation and the elaborate description of various ingenious plastic operations serves no useful purpose."

The only reliable criterion for estimating the efficiency of "herniotomy" consists in the actual examination of patients at stated postoperative intervals, say at three months, at one year and at two years. Where this has been carried out the disquieting fact arises that the recurrence rate is still high, ranging in the case of indirect hernia from 3% to 10% and in direct variety from 10% to 26%.

In the case of children it is generally conceded that if the neck of a recent indirect sac be efficiently dealt with a permanent cure results.

Coley's analysis of cases of simple indirect inguinal hernia indicates that, whilst the results in children are uniformly excellent, "no recurrences in two hundred and eighty-five follow-ups," in adults the results are far from satisfactory, "twenty-nine recurrences in three hundred and fifty-five follow-ups = 8·6%."

If the "saccular" theory be admitted with regard to indirect inguinal hernia, everything being equal, the same principle which guided us in the operative treatment in children should give equally good results in adults.

A perusal of the operation lists of the various metropolitan hospitals shows that "radical cure recurrent—left or right—inguinal hernia" is well to the fore, whilst in connexion with those of the Children's Hospital it is conspicuous by its absence. It is an open question whether the accessory factor, militating against a radical cure of indirect inguinal hernia in adults, originates from an accompanying weakness of the muscles or from defects in the transverse fascia.

Most surgeons recognize the futility of the usual technique for indirect hernia when applied to the direct type and various modifications of recognized procedures have been devised to correct the inherent anatomical defects giving rise to this form of rupture.

Direct hernias constitute about 10% of all primary inguinal hernias. On the other hand, approximately 30% of secondary or recurrent inguinal hernias are of this variety. This large proportion of direct recurrences indicates either that the usual operation for this type of hernia is inadequate or that the primary hernia existed as a combined direct and indirect hernia and that the direct portion of the sac was overlooked or the cases themselves were improperly selected.

Cowell's operation aims at reinforcing a weak and relaxed transverse fascia by an oblong fascial autotransplant taken from the external oblique aponeurosis and secured in position by living sutures.

The advantage of a neighbouring pedicled flap with its temporary superior lymphatic circulation is more than counterbalanced by the reduction in the strength of the abdominal wall.

Although complete removal of the sac is the most important step in the operative treatment of any form of hernia, it is necessary in order to prevent recurrence to provide efficient support at any weakened area in the abdominal wall. The radical cure of inguinal hernia must depend upon the rectification of the various anatomical defects present and any attempt to deal with all types of inguinal hernia by a standardized operation is certainly to be deprecated.

Yours, etc.,

H. C. RUTHERFORD DARLING.

229, Macquarie Street, Sydney,
June 13, 1927.

SNAKE BITE.

SIR: Dr. MacInnes's letter pointing out the futility of scarification and rubbing in of potassium permanganate at the site of the bite and the reliance on a tourniquet which is to be released cautiously at intervals to produce immunity, is of interest. As one who carried on a country practice for some years, I had to deal with several cases of snake bite or reputed snake bite and had no deaths. It appeared to me that local treatment was of very great importance. With the site of the bite more or less scarified by the patient and his friends prior to the doctor's attendance, there should be no delay in arriving at a diagnosis and all cases should be regarded as snake bite. My method was, when the tourniquet was properly applied, to inject a solution of cocaine, such as Waite's which was readily available, about 1·25 centimetres (one-half of an inch) from the circumference of the bite and cut out an area of skin of at least 2·5 centimetres (one inch) in diameter with the subcutaneous tissue underlying it and rub in

potassium permanganate crystals. Like Dr. Pern I have also used potassium permanganate in solution for injection in the neighbourhood of the bite. It always appeared to me to be much better to cut away the poisoned area rather than to entirely rely on producing immunity by the cautious release of the tourniquet at intervals. One of my patients who was a farmer, presented himself at my surgery stating that he was suffering from a snake bite "over the pulse." I inspected the wrist; there was undoubtedly a bite, for he had carried out no scarification and had simply applied a tourniquet. In this case if the poison had been injected subcutaneously in the neighbourhood of the radial artery or veins, it should have passed rapidly into the general circulation. As usual the case was treated with tourniquet, excision under cocaine for local anæsthesia and crystals of potassium permanganate were rubbed in. It is better to make an effort to remove the poisoned area and use the tourniquet rather than to rely on producing immunity by the introduction of small doses of poison at intervals.

Yours, etc.,

R. A. PARKER.

140, Sackville Street, East Kew, Victoria.
June 12, 1927.

CROSSED SWORDS.

SIR: Concerning Dr. Hornabrook's letter in your issue of the fourth instant in which he suggests a prefix of crossed thermometers to the names of members "who did not go overseas." Is this a reference to "cold feet"?

I agree with the writer that the "crossed swords" prefix should not be used save in a military list. I go further; I say that it certainly is not appropriate to those who were not in the war zone even if they did take a trip to Cape Town or Southampton. A crossed knife and fork would be more appropriate.

I also agree with him that the recognition implied by the crossed swords is due to men who served in any war. I suggest further that if due at all an extra sword should be added for each added campaign.

Yours, etc.,

"THE SARGE."

June 3, 1927.

DR. R. M. SHAW, of Carinya, Main Street, Mordialloc, Victoria, writes that he has "practically complete" sets of the *British Medical Journal* and THE MEDICAL JOURNAL OF AUSTRALIA with indices, from 1920 to 1923 inclusive. He is prepared to forward these sets to anyone desiring them on application.

Congress Notes.

RADIOLOGY.

THE Annual Meeting of the American Roentgen Ray Society will be held at Montreal, Canada, on September 20 to 23, 1927. Dr. Howard-Pirie is President-elect. It has been arranged that a party of British radiologists will attend the meeting. Medical practitioners from Australia who are interested in this branch of medical science and who may be going abroad at that time, will find much to interest them if they can arrange to be at Montreal at the time of the meeting.

Obituary.

ARTHUR FREDERICK PARKER.

WE regret to announce the death of Dr. Arthur Frederick Parker which occurred at Lismore, New South Wales, on May 22, 1927.

Analytical Department.

"MILTON."

"MILTON" is a liquid hypochlorite preparation recommended for the hygienic care of the teeth, mouth, throat, nose and so forth. It is manufactured by the Milton Proprietary, Limited, of Bunhill Row, London, E.C., and is claimed by the firm to be non-poisonous and cleansing.

Two samples have been obtained in Sydney and have been analysed by our own analyst. He reports that the preparation is a concentrated solution of sodium chloride and sodium hypochlorite with small amounts of lime, sulphateand carbonate. It yields 17·75% of total solids and 1·08% of available chlorine. A trace of chlorine is derived from the chlorate. The composition of "Milton" may be represented as follows:

	Analysis Figures.	Published Formula.
Sodium chloride	15·2 %	16·8 %
Sodium hypochlorite	2·1 %	1·01%
Sodium chlorate	0·15%	0·5 %
Sodium sulphate	0·14%	0·14%
Sodium carbonate	0·1 %	0·2 %
Calcium chloride	0·06%	0·08%

Both samples analysed contained about twice as much available chlorine as indicated in the formula on the carton. It is possible that the preparation intended for export overseas is somewhat stronger on account of the possible reduction of the hypochlorite in warm climates. The fault, however, is not serious, since the amount of available chlorine enhances the disinfectant power and is still not excessive. It is stated that the hypochlorite is produced by electrolysing sodium chloride and that samples analysed after two years have proved to be the same as fresh samples (Martindale). It is recommended by Victor Bonney, Blair Bell and C. W. Rundle for gynæcological purposes.

The result of our analyses and the independent reports on its therapeutic and hygienic uses justify us in concluding that "Milton" is a useful deodorizer, preservative, antiseptic and cleansing agent. The directions given on the label should be followed.

Proceedings of the Australian Medical Boards.

NEW SOUTH WALES.

THE undermentioned have been registered under the provisions of *The Medical Act* 1912 and 1915 of New South Wales, as duly qualified medical practitioners:

Bretherton, Reginald Victor, M.B., B.S., 1925 (Univ. Melbourne), 225, Miller Street, North Sydney.

Erby, Arthur Brian, M.B., Ch.M., 1927 (Univ. Sydney), Balmain Hospital.

Fargie, Eric Ian, M.B., B.S., 1924 (Univ. Melbourne). c.o. Dr. Weaver, Junee.

For additional registration:

Jeremy, Richmond, M.R.C.P. (London), 1926.

Grey, Francis Temple, Ch.M., 1925 (Univ. Sydney), 86, Harley Street, London.

VICTORIA.

THE undermentioned have been registered under the provisions of Part I. of the *Medical Act* 1915 of Victoria, as duly qualified medical practitioners:

Pannell, William James, M.B., B.S., 1925 (Univ. Melbourne), Children's Hospital, West Perth, Western Australia.

Porter, Albert Harding, L.R.C.P. *et* S. (Edinburgh), L.F.P.S. (Glasgow), 1894; Korong Vale.

Additional diplomas registered:

Moore, William Harold James, M.S. (Melbourne), 1927.
Rosenthal, David Braham, M.D. (Melbourne), 1927.

Books Received.

A DOCTOR'S VIEWS ON LIFE, by William J. Robinson, M.D.; Edited with a biographical introduction by Eden and Cedar Paul; 1927. London: George Allen and Unwin, Limited. Royal 8vo., pp. 526. Price: 16s. net.

TIGER TRAILS IN SOUTHERN ASIA, by Richard L. Sutton, M.D., Sc.D., LL.C., F.R.S. (Edinburgh); 1926. St. Louis: The C. V. Mosby Company; Melbourne: Stirling and Company. Royal 8vo., pp. 207, with illustrations. Price: $2.25 net.

EXAMINATION OF CHILDREN BY CLINICAL AND LABORATORY METHODS, by Abraham Levinson, B.S., M.D.; Second Edition; 1927. St. Louis: The C. V. Mosby Company; Melbourne: Stirling and Company. Imp. 8vo., pp. 192, with illustrations. Price: $3.50 net.

SHOULD WE BE VACCINATED? A SURVEY OF THE CONTROVERSY IN ITS HISTORICAL AND SCIENTIFIC ASPECTS, by Bernhard J. Stern; 1927. New York: Harper and Brothers. Post 8vo., pp. 146. Price: $1.50 net.

DISEASES OF THE DIGESTIVE ORGANS, WITH SPECIAL REFERENCE TO THEIR DIAGNOSIS AND TREATMENT, by Charles D. Aaron, Sc.D., M.D., F.A.C.P.; Fourth Edition, thoroughly revised; 1927. Philadelphia: Lea and Febiger. Royal 8vo., pp. 927, with illusrtations. Price: $11.00 net.

CATECHISM SERIES: ANATOMY, Part VI; Fourth Edition; 1927. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 89. Price: 1s. 6d. net.

CATECHISM SERIES: PHYSICS, Part II; Third Edition; 1927. Edinburgh: E. and S. Livingstone. Crown 8vo., pp. 68. Price: 1s. 6d. net.

Diary for the Month.

JUNE 28.—New South Wales Branch, B.M.A.: Medical Politics Committee.
JUNE 28.—Illawarra Suburbs Medical Association, New South Wales.
JUNE 30.—New South Wales Branch, B.M.A.: Branch.
JUNE 30.—South Australian Branch, B.M.A.: Branch.
JULY 1.—Queensland Branch, B.M.A.: Branch.
JULY 5.—Tasmanian Branch, B.M.A.: Council.
JULY 5.—New South Wales Branch, B.M.A.: Council (Quarterly).
JULY 6.—Victorian Branch, B.M.A.: Branch.
JULY 6.—Western Australian Branch, B.M.A.: Council.
JULY 7.—South Australian Branch, B.M.A.: Council.
JULY 7.—Section of Orthopædics, New South Wales Branch, B.M.A.
JULY 8.—Queensland Branch, B.M.A.: Council.
JULY 12.—Tasmanian Branch, B.M.A.: Branch.

Medical Appointments.

Dr. Austin L'Estrange Mahon has been appointed Government Medical Officer at Tully, Queensland.

* * * *

Dr. George Percival Stanley (B.M.A.) has been appointed Government Medical Officer at Tamworth, New South Wales.

* * * *

Dr. James Fox Barnard (B.M.A.) has been appointed Government Medical Officer at Corowa, New South Wales.

* * * *

Dr. Henry Dawson Ashton (B.M.A.) has been appointed a Medical Officer, Department of Mental Hospitals, New South Wales.

* * * *

Dr. Clifford Henry (B.M.A.) has been appointed Senior Medical Officer, Department of Mental Hospitals, New South Wales.

* * * *

Dr. H. R. G. Barrett (B.M.A.) has been appointed permanent Second Assistant Medical Superintendent, Mental Hospital, Goodna, Queensland.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Medical practitioners are requested not to apply for appointments to positions at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to "The Editor," THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, Sydney. (Telephones: MW 2651-2.)

SUBSCRIPTION RATES.—Medical students and others not receiving THE MEDICAL JOURNAL OF AUSTRALIA in virtue of membership of the Branches of the British Medical Association in the Commonwealth can become subscribers to the journal by applying to the Manager or through the usual agents and booksellers. Subscriptions can commence at the beginning of any quarter and are renewable on December 31. The rates are £2 for Australia and £2 5s. abroad *per annum* payable in advance.

INDEX TO VOLUME I., 1927.

JANUARY TO JUNE.

INDEX TO ILLUSTRATIONS.

SPECIAL PLATES.

Wholly Set Up, Published and Printed at The Printing House, Seamer Street, Glebe, Sydney, N.S.W., by HENRY WILLIAM ARMIT, of The Point Road, Woolwich, Sydney, on behalf of THE AUSTRALASIAN MEDICAL PUBLISHING COMPANY, LIMITED, of 30-34, Elizabeth Street, Sydney.

Registered at the G.P.O., Sydney, for Transmission by Post as a Newspaper. Published Weekly. Price 1s.

THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—14TH YEAR. SYDNEY: SATURDAY, JULY 2, 1927. No. 1.

At Peapes'—Players' "Country Life" Tobacco Mixture—
4oz. tins, 4/9; 18/6 per lb.

15% Concession for Cash off All Overcoats

The Season's most exclusive productions offered at this considerable concession in accordance with Peapes' policy of never carrying stocks from one season to another.

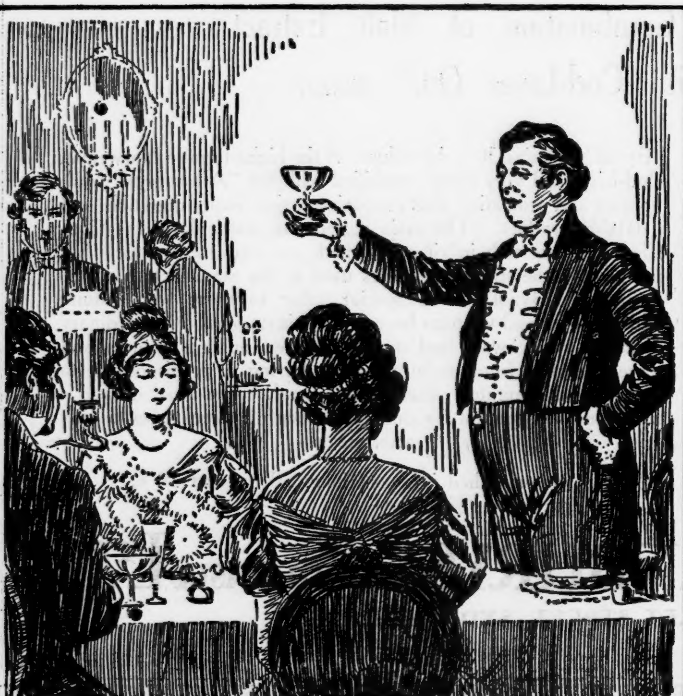
Exemplary of the economies to be effected by purchasing at present:

Blue Heather Mixture Tweed, medium weight, unlined Raglan, whole back, no seam, 105/- less 15% .. **89/3**

Dark Grey Tweed Double-breasted Chesterfield, three outside pockets, £6/6/- less 15% **107/9**

Smart Grey Scotch Tweed with overcheck, made with set-in sleeves, £6/10/- less 15% **110/6**

PEAPES **—for men and boys.**
GEORGE STREET
(opp. Hunter Street)
SYDNEY.



"George IV. Proposes the Health of the Ladies"

"King George IV"

"TOP NOTCH"

Scotch Whisky